



# FELIX

The *Journal* of Imperial College London



Help – the library is still really hot

PAGE 10 COMMENT

We own a million quid's worth of McDonalds

PAGE 7 FEATURES



## Imperial has £2.3 million invested in tobacco firms via endowment

### Imperial gets 20% of its research money from the EU

Grace Rahman  
Editor-in-Chief



- Investments are indirect but clash with college's cancer research efforts
- Made indirectly via three equity funds

**T**his week FELIX revealed that the college has significant investments in several tobacco firms, as part of its endowment portfolio.

Overall, Imperial has invested just under £2.4 million across several tobacco firms, via several equity and hedge funds.

Our findings, made via a Freedom of Information request,

show that although Imperial was not investing directly in any tobacco firms, three funds it was paying significant amounts of money into did have tobacco firms in their top ten holdings.

This is somewhat surprising considering Imperial's long term partnership with Cancer Research UK, the college's substantial research department dedicated to lung cancer

and the fact that eighteen different Imperial departments form part of Imperial's cancer network, aiming to research and cure the disease.

The firms we're indirectly investing in include Imperial Brands, who make Camel cigarettes, British American, who produce Lucky Strikes, and Philip Morris, who manufacture the world's most smoked cigarette – Malboros.

Imperial is investing just over £18 million across three investment funds that have holdings in the tobacco industry, and those are just the ones who were open with where their money goes. FELIX looked at the percentage these funds were investing in tobacco to work out how much of our cash has gone to the controversial corporations.

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**I**mperial receives just over 20% of its research funding from the EU, according to a report by a research software firm.

Over the last ten years, the EU has given Imperial grants in the region of £342 million.

The research hints towards the idea that if the public vote for Brexit in June's referendum, this funding would be lost, leaving an annual £1 billion gap in British research.

It reports that 22 other London institutions also benefit from EU grants, with King's getting 30% of its funding from the EU, and Greenwich 25%.

Digital Science's report also showed that the UK is the second-biggest beneficiary of EU funding for science, getting a quarter of its funding from the union, amounting to £967 million in funding last year alone. This is about 16% of the EU's total research grant budget.

In the last decade, British research facilities have received just over £8 billion from the EU, coming in second to Germany. Since 2009, the UK has got back around 7% of its EU subs from such funding. The EU pays for 41% of the UK's publicly funded cancer research and 62% of its nanotechnology funding, both of which have significant bases at Imperial.

Unlike Germany, however, we only spend 1.63% of our gross domestic product on research, whereas Germany...

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# FELIX EDITORIAL



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## A word from the Editor



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The Imperial endowment isn't much of a secret, and even to a Corbyn sympathiser like me, investing it seems like a sensible thing to do with a huge pot of cash – I mean, even I have an ISA, although I don't know what that means or does. When we spent hours going through Imperial's endowment funds this week, we expected to see a standard number of shady companies. Imperial has links to arms, oil and nuclear firms – we all know this. We have courses sponsored by Shell, lecture theatres brought to you by Rolls Royce, and more BAE-bound graduates than, well, than you'd hope.

Bombs, arguably, are quite bad. In the 'right' hands, they're excusable, or at least a deterrent, and since we pump so many students into the arms industry, it's unsurprising that we pump a little cash into it too. But considering our substantial research

into cancer treatment, investing nearly £2.4 million in an industry that thrives on the fact that their product is addictive, with the added benefit of killing its customers slowly, seems truly perverse.

Ooh, FELIX supports a nanny state! No, friends. I tried a menthol once, you know (it was fucking grim). People like cigarettes and the tobacco industry sells them, so it's a safe place to invest. But just because we can, does it mean we should? Ethical investing is easily done these days. If FELIX was able to find how much each investment fund had bet on the tobacco industry, presumably it would be quite easy for the endowment board at Imperial (which is dedicated to deciding the destination of these funds) to do the same. £2.4 million is only a small fraction of our entire fund, but what if it's made up of your fees?

Pension funds, universities and most recently the health insurer



AXA have divested from tobacco products. It can be done. We should expect better of our institution, which prides itself on teaching students logic, science and evidence-based thinking, to stop funding the tobacco industry with one arm and attempting to cure lung cancer with the other.

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## A letter complaining about the UK student loans company has gone viral

A graduate who was shocked to find his student loan had accumulated £1800 worth of interest just a year after leaving university has written a letter to his MP, which has now gone viral.

Simon Crowther, who graduated last year from Nottingham with a degree in civil engineering, opened a letter from the Student Loans Company last weekend and was amazed to find that his £40,000 debt from fees and maintenance loans during his three year degree had accrued £180 worth of interest per month.

Crowther, who has started a social media business since graduating, said in the letter that him and his friends had not known what they were signing up for when they had agreed to the loan repayments while

they were still at school.

He compared the astronomical interest rates, which have been retroactively increased since the 2012 cohort signed their contracts with the Student Loans Company, to those of personal loans and mortgages. Currently, the 3.9% interest he and thousands of others are paying is far higher than the rates on standard personal loans or mortgages.

In the letter, Crowther said that he felt "cheated" and complained that he and others students in his year had "trusted the government that the interest rate would remain low – at around 0%-0.5%".

However, even during his degree, the interest was 3% plus inflation. Students don't have to start paying back their loans until they start earning over £21,000, but during this time interest is being added

at 0.9%. Once you earn enough to start repayments, the interest rate can rise up to 3.9% if you're earning £41,000 or more.

Students who started university before 2012, have their interest rates set at 0.9% "until further notice" according to the Student Loans Company.

Last November, the government announced that it would be freezing the repayment threshold of £21,000 a year rather than increasing that figure with inflation, meaning low and middle earners will pay back more. Martin Lewis, the founder of *moneysavingexpert.com*, who was on the government's board for student finance in 2011, announced at the end of last year that he was independently hiring a team of lawyers to investigate these changes.

GRACE RAHMAN



Fair. Photo Credit: FELIX



# Imperial places 7<sup>th</sup> in the *Guardian's* league table

We're up a place, but behind Loughborough and Durham

Grace Rahman  
Editor-in-Chief

Imperial has placed seventh in the *Guardian's* league table of British universities, coming behind Durham, Surrey and Loughborough.

Imperial usually takes third place in league tables of UK universities but in this league table, St Andrews comes straight in after Cambridge and Oxford.

The *Guardian's* league table doesn't factor research scores into its rankings because, according to them, "they are not important to students".

We're up on last year, when we took eighth place. Loughborough, famous for sport, has swooped in from eleventh to fourth place, joint with Surrey.

The *Guardian* gives each university a score out of 100, considering how

much money is spent per student, employment prospects, student staff ratio, entry demands and student satisfaction, with several of these factors extrapolated from the National Student Survey. The combination of these gave Imperial a score of 84.4 out of 100.

Durham beat us by only half a point to come in at sixth, and Surrey and Loughborough (joint fourth) both had scores of 85.

The *Guardian's* data for Imperial student satisfaction with both teaching and the course was relatively high, but our score for satisfaction with feedback was very low, at only 66.7 out of 100.

There was also a course-level ranking of universities. In physics and medicine we came eighth, computing fourth, maths second, and mechanical engineering first. For Chemistry, the *Guardian* put us as way down in nineteenth place.

| Rank | 2017 | 2016 | University                 | Score | 2015 |
|------|------|------|----------------------------|-------|------|
| 1    | (1)  |      | Cambridge                  | 100   | 88.0 |
| 2    | (2)  |      | Oxford                     | 95.4  | 91.6 |
| 3    | (3)  |      | St Andrews                 | 90.8  | 89.6 |
| 4    | (4)  |      | Surrey                     | 85    | 92.3 |
| 4    | (11) |      | Loughborough               | 85    | 89.7 |
| 6    | (6)  |      | Durham                     | 84.9  | 89.1 |
| 7    | (8)  |      | Imperial College           | 84.4  | 85.1 |
| 8    | (10) |      | Lancaster                  | 82.6  | 89.1 |
| 9    | (6)  |      | Warwick                    | 82    | 86.1 |
| 10   | (5)  |      | Bath                       | 79.9  | 90.1 |
| 11   | (9)  |      | Exeter                     | 78.2  | 81.1 |
| 12   | (13) |      | London School of Economics | 78.1  | 81.1 |
|      |      |      |                            | 75.6  | 81.1 |

Screw you, Durham. Photo Credit: The Guardian

# Jeremy Corbyn hosts economy event in Sherfield

Corbyn, McCluskey and McDonnell were all at Imperial

Last Saturday, members of the Labour party gathered in the Sherfield great hall to discuss the future of the British economy.

The great hall, where exams have been happening all week, was transformed into a Labour love-in, while party activists, journalists and MPs wondered around the Sherfield building discussing economic policy. The event was a private one, with Imperial renting out the space to the party for a fee.

The focus of the day was firmly on the economy; speakers discussed Labour's 'new economics' with a focus on wealth and its distribution. Jeremy Corbyn told activists that wealth creation itself was not a bad thing as "we all want greater prosperity" but that there must be a greater focus on how that wealth is

created and shared.

John McDonnell, the shadow chancellor, promised that Labour would build 100,000 new council houses a year if his party got into power.

There was a general consensus that Labour needed a better reputation in economics if it wanted to get into power again. McDonnell said the party had to prove "it was a responsible custodian of public money."

Many of the party's big names were not present, however. Veterans like Gordon Brown, Yvette Cooper, Liz Kendall, and Vince Cable were down the road in Bloomsbury at the Fabian Society's summer conference, also discussing the party's future.

In a speech at the end of the day, Jeremy Corbyn concluded: "Today

we've discussed the state of the economy. And the sad truth is... the economy is in a bad state."

He also said he would want a future Labour government to "be judged on an index of equality and inequality".

The great hall was transformed into a Labour love-in



Look familiar? Photo Credit: Twitter / @UKLabour



## David Nutt talks drugs, alcohol and research funding

He spoke as part of Imperial's Mental Health Week

Grace Rahman  
Editor-in-Chief

David Nutt, the chair of Imperial's Centre for Neuropsychopharmacology, advocate for drug reform, and former chair of the Advisory Council on the Misuse of Drugs before he was sacked by the government in 2009 for saying alcohol was more harmful than illegal drugs, spoke to students and staff last week as part of Imperial's mental health week.

His talk, which was the week's keynote lecture, was entitled 'Mental illness and illegal drugs: cause or cure?' and covered everything from the death of Amy Winehouse to the political motives behind Richard Nixon's war on narcotics.

Before he was asked to step down as the government's chief advisor on drug policy, David Nutt said some pretty controversial things about drugs, the most famous being when he compared the number of annual deaths linked to horseriding (100) to those linked to ecstasy (30). Thereafter, his research-based statements clashed more and more with the government's political stance before he was finally let go after publishing a paper ranking drugs, both legal and illegal, in order of harm. Alcohol and tobacco were above cannabis, LSD and ecstasy.

At his talk last Thursday, Professor Nutt discussed the dangers of

He discussed the dangers of alcohol and its accepted danger to public health



David Nutt is an Imperial favourite, and legend in /r/drugs. Photo Credit: Youtube

alcohol and its toxic, yet accepted, danger to public health. He spoke solemnly on Amy Winehouse's death, discussing the media's portrayal of her heroin addiction, in comparison to the relapse into alcohol addiction that actually killed her. Despite being sober for six weeks, which the government defines as being 'cured', it was a bottle of vodka combined with an abstinence-induced low tolerance that killed her.

David Nutt pressed the danger of alcohol, telling the audience that it was now the leading cause of death in men in the UK today, and would soon be the same for women.

However, politically, alcohol is accepted and enjoyed by policy-makers and journalists, which he suggested was a motive behind the government's preferential treatment of alcohol to other illegal drugs that do less harm overall.

Obviously, as an advocate for drug reform, David Nutt mourned the seemingly non-research based rhetoric behind the government's current drug laws. Not only do these laws unfairly penalise people of colour, they make his research into

using drugs like LSD, mushrooms and MDMA to treat a range of psychiatric disorders, all the harder to do. Getting research like this past ethics committees, and therefore securing funding, sound like a nightmare.

This is what led to David Nutt to collaborate with Channel 4 to make the Drugs Live programmes, which as well as giving us the amazing footage of Channel 4 newsreader Jon Snow stoned in an MRI machine, also gave Nutt and his



Some of the finest TV this decade. Photo Credit: Renegade Productions

co-researchers the funding to do a brain imaging study on patients on MDMA.

The new psychoactive substances law that comes into effect at the end of this month did not escape a mention, although Professor Nutt did not take a favourable stance on the legal highs, such as spice, that this new law is attempting to clamp down on. Spice is a synthetic cannabis that's now widespread in prisons. Originally created as a medicine but deemed too toxic for use, it's risen in popularity in the prison system since it is difficult to detect in both drug tests and by smell. However, it is by no means preferable to cannabis use, as it's far more potent and, more importantly for public health, we know much less about it.

David Nutt's pragmatism when it comes to drugs is obvious when he speaks. He speaks on the subject with all the authority and frustration that you might expect from someone who's attempted to work with the government when it comes to drug policy. The evidence is obvious to him, and by the end of the talk it seems obvious to you too: wanting drastic new drug policy is no longer the standpoint of stoners and lib dems – it may well be the best way forward for public health in this country.



## Nominations for DPFS to reopen next week

The fifth sabb will return next year

Grace Rahman  
Editor-in-Chief

After rumours of the position's demise, the union has re-opened nominations for the role of Deputy President (Finance and Services).

Despite a huge number of students running for the roles of President and Deputy President (Welfare) this year, no one stood to replace Chris Kaye as DPFS.

At one point, there was talk of replacing the DPFS role with a sports sabb or some kind of student development sabbatical role. However, these changes would have had to have been approved by union council, the governing body of the union made up solely of students and sabbs. With union council struggling with quoracy issues all year, this would have been impossible to pass in such a short space of time.

If no one stands for the position this year, it'll be the perfect



This could be you! Photo Credit: ICU

opportunity to ditch the role that many have wanted to get rid of for a while.

The DPFS role includes approving

clubs' claims, and generally looking after the union's spending. Arguably, it's a good idea to have a student keep an eye on financial matters,

rather than leave it to the President who has other concerns.

If you're interested in running, the position pays a sweet £19,000

a year, plus a free place in halls or a significant contribution if you choose to rent a property.

Nominations reopen next Tuesday the 31<sup>st</sup> of May and close on the 9<sup>th</sup> of June. Candidates are then free to campaign, and voting last from June the 13<sup>th</sup> to the 17<sup>th</sup>. Results will be announced online (no glitter cannons this time) on Monday the 20<sup>th</sup>.

Other unfilled positions that nominations have been reopened for include BME, Disabilities and Gender Equality Officers, as well as two ICSMSU positions and the whole Graduate Students' Union committee.

Chris Kaye, the current DPFS, who recently had a union bar cocktail named after him, said he was "delighted" at the news, telling FELIX "the second oldest sabbatical role in the Union plays an important part to ensure the best possible service standards for our students" and has a "strong input into direction of the Union, as well as to solve problems for our members".

## Imperial gets 20% of its research money from the EU

That amounts to £342 million over the last decade

continued from front page

...dedicates 2.85%, suggesting that we are more heavily relying on this EU funding than they are.

Regardless of your political leanings, it's obvious from the paper that the UK has become pretty dependent on EU funding. Scientists for Britain, the Brexit campaign group, says that countries outside the EU, like Israel, Norway and Iceland still receive science funding from the union, and that the nordic countries actually have

the greatest funding per capita from the EU commission's £61 billion 'Horizon 2020' research programme.

The battle for hearts and minds continue across Imperial continues this week, as 'Students for Britain', the Brexit campaign group, started to distribute their leaflets across campus.

The union is hosting an EU debate on the 2<sup>nd</sup> of June in Skempton LT 164, and the referendum is on the 23<sup>rd</sup> of June. You can register to vote until the 7<sup>th</sup> of June.



Brexit and chill. Photo Credit: FELIX



# Petition to air con in the library hits 1000 signatures

## We're doing it for you guys

FELIX's petition to get air conditioning in the library has had a strong opening week, reaching 1000 signatures on its third day, showing how keen students are for better revision conditions.

Comments from miffed students on why they signed the petition range from the factual: "I am a student at Imperial and I find the library very hot" to the less serious: "MAKE THE LIBRARY GREAT AGAIN", "I don't want to melt", and "It's a shepherd's pie in there".

Other commenters get straight to the real talk: "Because I pay £26,000 a year in tuition fees" and some really break it down: "You are supposedly educating our next generation of scientists. Any educationalist will tell you that comfort and confidence lead to success. Buildings are created to reduce external influences eg cold, wind and even heat. Students overheating does not equate to

Grace Rahman  
Editor-in-Chief

comfort and and the right learning environment. Imperial you are one of the richest universities, get a grip and put in air conditioning!"

Imperial successfully applied for planning permission for the air conditioning units needed back in 2014, however, nothing has been done with these plans since then. The library needs £13.5 million to complete the necessary works, but it has only been allocated half of the money.

This issue is one many students have rallied behind, and we believe that if enough of us shout loud enough, all together, at the right time of year, college might hear us, and fork out for some air con.

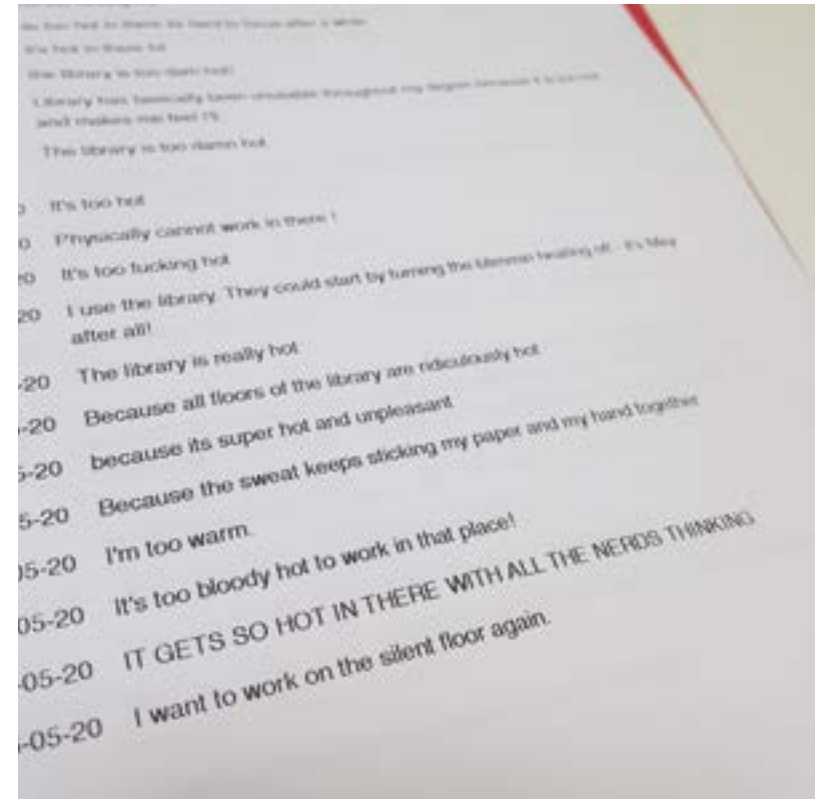
The £6.75 million still needed by the library could pay for one tall strawberries and cream frappuccino

## We're planning on presenting the petition to college this week

for every student, every week of term for the next three years. Air conditioning would probably last longer though.

We're planning on presenting the petition to senior members of college this week, so any final signatures could really help our case.

You can sign the petition at [felixonline.co.uk/go/library](http://felixonline.co.uk/go/library).



A selection of the petition's comments. Photo Credit: FELIX

# Imperial has invested £2.3 million in tobacco firms via its endowment fund

## Indirect investments clash with college's anti-cancer research efforts



Imperial's cancer division is based at Hammersmith Hospital. Photo Credit: Wikipedia

*continued from front page*

The £2,384,327.09 that FELIX calculated Imperial is investing in these firms is just a fraction of the £201 million or so the college has invested as part of its total endowment.

Other universities, such as Edinburgh, have divested from tobacco firms, after it was pointed out that the university's research efforts clashed with such investments.

A college spokesperson told FELIX: "It is College policy to neither undertake research to develop or promote tobacco products, nor to directly invest in

## Edinburgh university has divested from tobacco firms

tobacco companies."

"Where the College delegates investment decisions to its external fund managers, they are instructed

not to directly invest in tobacco companies."

"Some of their investments are, however, in managed funds. The College and its external fund managers have no control over the composition of those funds, which change on a continual basis. The College Endowment Board has a responsibility to optimise investment return to support Imperial's academic mission but continues to keep its policies under review, which includes looking at ways to avoid even indirect investment in tobacco."

The full investigation can be read on the opposite page.

GRACE RAHMAN

# FELIX FEATURES



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## The Imperial endowment fund – what are we investing in?

We take a closer look at where Imperial is putting its cash

Grace Rahman  
Editor-in-Chief

Imperial's investment portfolio is a well-known part of the college's assets. Much like a savings account, a board decides where we invest year on year, to make the most of our stacks of cash and earn us interest. This is done by most universities, and whereas Oxford and Cambridge's endowments are in the billions, ours are at a modest £201 million.

College calls the funds a "growing source of unfettered funds for the academic mission" but says the assets are "not core to the academic mission". Essentially, no, this isn't money that can be used to put air conditioning in the library or make the labcoats in life sciences free. But it may well be money from your fees.

### Where's the cash?

Imperial's investments through its endowment fund as of 31<sup>st</sup> of March 2016 showed a few of the expected culprits.

We own £1,047,744 of shares in oil and gas giant Shell. Unethical, potentially, but considering whole modules on Imperial undergraduate courses are sponsored by the firm, hardly surprising. A slightly more

Imperial is directing £2,384,327 of its endowment into tobacco firms, though indirectly

dubious firm we invest in is Rio Tinto. The Norwegian government divested from the mining firm in 2008, blaming it for causing "severe environmental damage" around an Indonesian mine. Imperial have invested £155,560 in the corporation.

Unsurprisingly, big pharma also make an appearance, with the college owning £2.7 million worth of shares of Johnson & Johnson, GSK and Eli Lilly and Company altogether.

Also on the no-go list for the Norwegian government is any company that produces weapons that under normal use could "violate fundamental humanitarian principles", which basically means nuclear weapons. The people in charge of the Imperial money pot do not feel the same way, and instead, have a £847,596 stake in Lockheed Martin, the company that makes the UK's nuclear weapons system, Trident, as well as bog-standard ballistic missiles and your standard work-a-day bombs. Nice.

### Tobacco and Imperial

Although not directly investing in any tobacco firms, Imperial has its



Exclusive image from inside the faculty building. Photo Credit: AMC

largest investments in equity and tracker funds, that invest millions on the college's behalf across a multitude of mainly safe bets. Imperial has £8,223,695 invested in Fundsmith Equity, which counts Imperial Brands (who make RizLa papers, Camel cigarettes and Drum tobacco amongst others) and Philip Morris International (who make Marlboro – the most popular cigarette brand in the world) in its top ten most weighted holdings. Of the college's eight million, £817,435 is invested directly in tobacco firms via this particular fund.

Of the £5,839,820 Imperial has invested in the Capita Financial Woodford Equity income, £422,219 is in Imperial Brands, £350,389 in British American Tobacco and £204,977 in Reynolds American, who make Pall Mall and Camel cigarettes.

We've invested £3,988,005 in the Invesco Perpetual High Income fund, 15% of which was invested in tobacco firms. This works out at nearly six hundred grand's worth of our cash funding the cancer-causing

industry.

These are just the funds that were open with their holdings, which many are not. From what we could find, Imperial is directing £2,384,327 of its endowment into tobacco firms, though indirectly.

Considering the university has strong connections to Cancer Research UK, it's bizarre to think that Imperial college is betting on the success of the tobacco industry.

The college has eighteen separate departments that make up its "cancer network".

### Should we divest?

Are investments in tobacco par for the course these days? They're a firm favourite among UK investors: Imperial brands gave their investors a 15% average return over the last five years. However, trends are changing. As the government changed its rules on cigarette packaging this week, AXA, the insurer, announced that it would be selling its hefty €184 million of shares in various tobacco firms. The irony was not lost on the firm, whose major business is

in offering health insurance – it was funding the actions of companies that cause the deaths of six million people a year.

Ethical funds the world over have been avoiding firms like Philip Morris, Imperial Brands and British American Tobacco for some time, but AXA's pull-out is thought to be the first major European institutional fund that has turned away from less ethical causes.

In 2004, Edinburgh university agreed to divest from tobacco, and there are options to invest ethically. Although these investments aren't direct, the funds' holdings are made public, so Imperial could quite easily avoid tobacco investments. It is only a drop in the ocean of our huge endowment fund, though.

It's not all sad news. Imperial's also invested over £800,000 in the pet accessory chain Pets at Home.

The college's £1,136,742 investment in McDonalds could pay for a Fillet-O-Fish a day throughout the month of June for every student at Imperial.

Ethical funds the world over have been avoiding firms like tobacco for some time



# Here is my #MessageToFeminists

'Social justice warriors' would do well to listen to their own sermon of tolerance

Arnold Tan  
Writer

There has been a recent rise of an online stronghold of cultural libertarianism, which has been deemed by some to be a reactionary movement against the regressive left. Classically liberal and conservative figures are breaking down the barriers between the political left and right, and are coming together to discuss a multitude of ideas including free speech, political correctness, censorship and 'safe spaces' in the university scene, and cultural relativity.

## Are modern feminist ideologies too flimsy to withstand scrutiny?

Prominent figureheads in the discussion include talk show host Dave Rubin, equity feminist Christina Hoff Sommers, libertarian activist Lauren Southern and controversial gay conservative Milo Yiannopoulos.

It was only a matter of time until something so contentious as a #MessageToFeminists campaign would arise. The hashtag, created by one Taled Brown on his Youtube channel *That Guy T*, aimed to stimulate debate on the current feminist movement by giving a voice to its most common critiques. Originally devised as a Youtube challenge, the hashtag is now making rounds on Twitter, drawing attention to the need for an actual intellectual conversation and free exchange of ideas, which many believe has failed to take place in a monotonic, stifling PC culture.

Brown himself had this message to impart: "The rejection of individualist freedom for the pursuit of authoritarian equality is not empowerment."

Indeed, more and more



A conservative, a feminist and a comedian walk into a bar – and talk about political correctness. Photo Credit: Youtube

'systematically-oppressed classes' are speaking out against the neoprogressive doctrines that modern feminism promulgates. This is certainly not tantamount to the opposition of classical liberalism: often the opposite, actually. I, myself, believe a part of classical liberalism is updating, reforming and exchanging our opinions and beliefs where necessary (Bayesian inference, anyone?) to preserve intellectual integrity.

So, here is my #MessageToFeminists (specifically, third-wavers): why not embrace the criticism and use it to benefit and reform the movement? Why is unfavourable dissent being shut out and shut down? Are modern feminist ideologies too flimsy to withstand scrutiny? Why is the movement so intolerant of its questioners, despite claims of diversity and acceptance? Karl Popper's paradox of tolerance comes to mind.

Everyone knows the dictionary definition of feminism. It has been repeated ad nauseam to the public through progressive media outlets and popular celebrities. The reason, then, must run deeper as to why so many refuse to associate themselves with the movement. If everything boiled down to a dictionary definition, we'd have many more people comfortably identifying as feminists. The trouble is that third wave feminism, the poster child of the regressive left and PC culture, is not reflecting that definition.

Also relevant is the unspoken obligation to subscribe by default to certain feminist theories other than the otherwise harmless dictionary

definition. Privilege theory, as preached by third wave feminism, as practised today, is demonstrably flawed. So is intersectional theory, which divides the classes rather than unifying them. I concede that these theories were conceived with good intentions, and that certain aspects of these theories do hold water. However, one need merely consider the recent incident involving Oxford student activist Ntokozo Qwabe to get a sense of how far these progressive ideologies are being taken by their proponents, and how they are being used to justify actual discrimination. What is remarkable is not that Qwabe and a fellow social activist publicly

millennials who bully and actually marginalize individuals of another background while operating under the guise of social justice!

Real life is not a novel where the Draco Malfoys are so easily identified. In the current day we have bullies of a different variety, the 'social justice warriors' who genuinely believe they are fighting on the right side of things. This is more dangerous than a generic schoolyard bully, who at least operates clearly on the outside of a communal moral code (everyone knows that harassing another kid for lunch money is wrong) and can't justify his or her actions by claiming a 'moral enlightenment'.

Many feminists are convinced of the superiority of their ideology in society. Look no further than Mark Ruffalo's Tumblr post telling women against feminism to "kiss my ass". How will this possibly get more people to join his feminist cause? To put this in perspective, imagine if this was the method used to draw awareness to any other activist movement campaigning for environmental concerns, animal rights, or even a religion. Wouldn't mass disapproval ensue?

Thusly, many feminists run the risk of becoming intractable and unable to adapt to opposing viewpoints. After all, what other viewpoint is there to adopt, outside of our own superior construction?

I hope we all agree that feminism needs to be more than running around harassing others in the name of creating a 'liberal, tolerant, diverse culture'. To me, this is not progression! It is regression.

## Feminists run the risk of becoming intractable

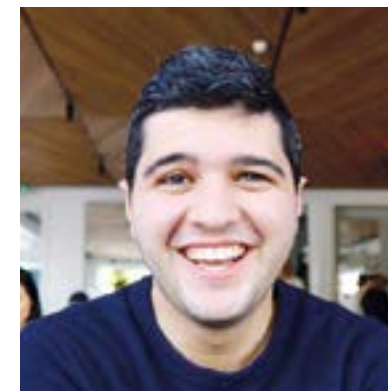
harassed a white waitress on the basis of her ethnicity (reducing her to what Qwabe gleefully refers to as 'white tears'). What is scary is that Qwabe justified his actions by explaining how ethnic minorities cannot be racist due to the systematic oppression and invisible structures of society working against marginalized classes.

This concerns me gravely. We are cultivating a generation of



# 1061 people can't be wrong

Air conditioning in central library must be a top priority for the sabbaticals



Philip Kurukgy  
Writer

An expected outbreak of support for FELIX's campaign for air conditioning in the library has seriously raised questions about the role of the union in delivering student demands.

Imperial provides great facilities to study in and world class labs, but falls short in the central library.

From personal experience, I avoid studying at that place at all costs (the horrid smell, serious lack of oxygen, and ridiculous smell of damp).

The campaign, strangely enough, started in the FELIX office, where they actually listen to what students have to say. What is even more surprising is the complete silence and astonishment of the "Beit Sabbatical Establishment".

1050 signatures should at least warrant a response and a promise from the Union president to deliver on a student petition. The 2016 Leadership election saw a very familiar theme with what we've seen

globally – a discontentment with power – with the underachieving "Beit Quad Cartel" and "CV patching sabbaticals". Imperial's sabbaticals are elected in the largest democratic university elections in England, with a clear mandate to raise the issues that we care about as students, but failing to do so is a failure at their jobs.

The environment in which we spend months of summer term trying to untangle our degrees must be a priority. We not only deserve air conditioning, but demand it; our tuition fees justify it. I strongly believe the new union president Nas should make it a priority to negotiate with college to deliver this. Some funds and licenses are already in place. Nothing justifies the ridiculous state of a five floor incinerator with a nauseating smell.

As a member of the union council I can tell you that many things are wrong in this union, like that the council doesn't meet and sabbaticals

are only accountable to themselves. Did the union deliver significant change to each and every one of us this year besides £2.60 pints, sports nights and a fiasco Summer Ball headliner? The union's role is

to "enhance student's experience at Imperial." Well the people demand air conditioning and you better deliver, or your office is not only undermined, but void of sense and purpose.



Actual scenes from level 4 in summer term. Photo Credit: pando.com

# The EU is good for Europe

But pretty bad for the rest of the world

Sebastian Gonzato  
Writer

Let me start by saying that, generally, I am pro EU. Before university, I went to a European school, where I was taught extensively about the European Union in my history and geography classes. I'm not blind to the faults of the EU, namely that it is a prohibitively beaurocratic institution run by technocrats and MEPs elected by only 42.5% of the voting public. Nonetheless, I would argue that on the whole, the EU is beneficial to Europeans.

However, the EU has not been a good thing for the rest of the world. In particular, the EU's policies on immigration and agriculture have particularly detrimental effects on the developing world. The term 'Fortress Europe' was originally coined in the Second World War to describe the areas of continental Europe occupied by Nazi Germany, but it is an equally apt description of

Europe's policies today.

The cornerstone of EU farming policy is the Common Agricultural Policy (CAP), which subsidises farming within the EU, accounting for nearly 40% of the EU's budget. Along with tariffs on food coming from outside of the EU, the CAP has allowed EU countries to become largely self-sufficient on food post-war. This protectionism (common to most developed countries) not only makes some foods more expensive for Europeans, it also harms farmers in developing countries who not only can't afford to export their food, but also have to deal with artificially cheap products coming from the EU.

Then there's immigration: over the past year we've been told that there's a refugee crisis in Europe. There isn't, at least not in Europe. Lebanon and Jordan have opened their borders to 2.5 million refugees

in the past four years, representing a 20% increase in the total population of these two countries. Compare this to the 200,000 refugees that the EU is now trying to deport to Turkey which represent an increase of 0.04% in the EU's population. Jordan and Lebanon are reaching a tipping point which could easily be avoided if the EU opened its borders and shared the burden of this humanitarian crisis.

What makes this all particularly galling is that, through the WTO and other organisations, the EU promotes neo-liberal policies like free trade and migration while doing exactly the opposite at home. These policies are often imposed on developing countries through IMF and World Bank loans, but it happens at home as well; in 2012 EU loans to Greece were granted on the condition that Greece open up its energy sector.

The debate over Brexit has revolved around, "Would this make me better off?". While I would like to think that the whole point of the EU is that it turns the 'me' into an 'us', the truth is the EU is just as self-interested as any other nation.

## The EU has a detrimental effect on the developing world

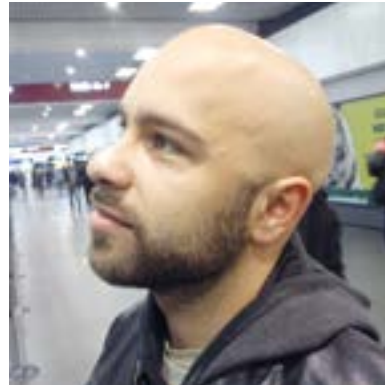
# FELIX COMMENT



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## The EU is not perfect, but the better option

Leaving the EU will detriment the UK, Europe, and the world



Pietro Aronica  
Writer

I have written many times for FELIX with trollish tones and hyperbole, but this time, there is no exaggeration in what I say: I can think of no worse political catastrophe in our time than the UK leaving the European Union, perhaps only rivalled by a Trump presidency.

The upcoming referendum is of enormous importance, and many of you won't be called to vote again on anything that approaches the same relevance. I hope that you make the right decision, which is to remain. Don't think that it's because I am a grubby foreigner; I believe in the European project, which an 'out' vote would end. I want to address some of the concerns about membership of the EU, and hopefully show you that, despite these, a reaction of isolation is not the correct answer.

First there is the issue of immigration, which appears to be the primary concern of Brexiters. Essentially, an independent UK could stop unwanted refugees, jobseekers and other undesirables entering the country. I could conflate this to racism, but it's a serious concern: is immigration harmful? Won't immigrants make it harder for locals to find jobs?

Simply put, no. By and large, immigration is beneficial for the receiving country, mostly as a source of cheaper labour. Will there be cases of foreigners straight up taking a job that could have gone to a Briton? Yes, it will happen, but we should not formulate policies based on anecdotal evidence. These events, while relevant for the individual, do not represent what happens on a macroeconomic level. As immigrants arrive, the size of the economy increases and everyone benefits, even those initially short-changed. To take a familiar example, if an immigrant takes a PhD scholarship at the expense of an English researcher, it might be bad for the latter, but foreign talent and interest will create more positions down the line, benefiting future research. UK universities will also profit more in publications and



We're stuck choosing the lesser of two evils. Photo Credit: The Sun

contributions than if immigrants had worked elsewhere.

If we claim to be a meritocratic society, then we should evaluate people on their capabilities rather than their origin. A nationality is not a merit, nor a fault. To discriminate between workers based on this metric risks being short-

### The EU has flaws, but in order to correct them we must remain

sighted and self-limiting. Besides, most new immigrants don't come from the EU, and Brexit wouldn't impact the ability to regulate it. On the other hand, most companies and economic studies agree that an open immigration policy with regards to the EU is beneficial for all.

The other big issue is the bureaucracy of the EU, considered by many as poorly democratic and not transparent. But, for all its

faults, the EU is the most successful supranational organisation of our age: it has ensured collaboration and peace between countries that less than a century ago were fighting each other. Some regulations will be more beneficial for certain members, and some will be confusing to the layman, but is that any different from any state? Some UK policies are better for England than Scotland; some benefit London over the rest. Governing is a complicated process which must balance millions of conflicting interests. If the UK were to leave to regulate itself better, why stop there? Why can't every county, every town, every house become its own state to regulate itself better? A fractalisation of government would divide for the sake of ephemeral self-determination and would create complexity.

The EU has flaws, but in order to correct them we must remain inside. To leave at this point would mean to have no say in matters that end up affecting us all. No country is truly an island: now more than ever, global events have far-reaching consequences, and it is better to have coordinated responses and policies rather than many parties each trying to safeguard their own interests. The alternative is to return to 28 different countries, with 28 different standards, 28 different sets of laws, 28 currencies, 28 divided

peoples.

This is what would occur if the UK left: it would end the European project. We would return to a fractured continent, weaker in international matters. The Brexiteer's dream is that an independent UK would prosper once freed from the shackles of immigration and bureaucracy, but that's nothing short of utopic. The UK is small and unremarkable: it has thrived so far not despite, but due to being a part of Europe, taking advantage of shared bargaining and supranational regulations. The

### An isolated UK would find it impossible to re-establish itself

19<sup>th</sup> century is gone, and the days of Empire are over. The world has much changed and, according to most professionals, an isolated UK would find it impossible to re-establish itself on its own today.

I won't comment further on economic aspects, because every authority and expert says the UK will be better off staying in, nor will I dwell on the rhetoric of those who advocate 'out'. Misunderstanding immigration can lead to poor policies, and the EU, despite its bureaucracy, still represents the best way forward for the UK.

This has been an unusually restrained article for me. I set off to write something more sarcastic, but I don't intend to insult anyone. If you're doubtful, you're right to be. It's a complex issue whose outcome will affect us for generations. I hope that what I've said will answer your concerns and perhaps nudge you towards what, I feel, is the best answer.

For a better UK, a better Europe, a better world, the UK should stay.

# FELIX COMMENT



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## The left vs the EU

A vote to remain in the EU is a vote for right-wing ideologies



Ben Sharpless  
Writer

Before Obama's recent tour of the country (mainly London, of course), I was largely on the fence over how I'd vote in the EU referendum. Unfortunately for him however, he didn't manage to convince me to vote to remain. Instead, his warnings of being put at the back of the line for neoliberal negotiations like TTIP reinforced my left wing case against the EU.

### The EU is the antithesis of left-wing politics

When we think about Brexiters, we often think of xenophobic individuals saying that they remember how great the country was before the European Union whilst hoisting St. George's Cross up a flag pole. But what most on the left don't think about is the strong left wing argument for leaving the EU.

The EU is the antithesis of left-wing politics and economics. Spawned from the first emergence of neoliberal politics of the 1970s and 80s and coinciding with Thatcherism in the UK, it is these politics that still dominate EU policy to this day, and act to mean that it supports big business over the real interests of the people of its member states. A topical example of this is the crisis of the UK steel industry. While the EU does not explicitly ban the nationalism of an industry, it heavily implies that it is not allowed, with governments not allowed to invest in ventures that would reduce competition in the market and reduce the profits of other businesses (even if it means saving 40,000 jobs). This also poses a problem to renationalising the railways, an issue that has regained a lot of support lately. Would state ownership and operation of rail

services reduce competition in the transport sector? Of course – but hopefully to the benefit of those that use it. And of course, we cannot forget the ruthless imposition of austerity policies on the Greek economy.

When Obama told me I'd be back of the line for neoliberal trade agreements like TTIP (the Transatlantic Trade and Investment Partnership, which is admittedly coming under fire in many countries but still being pushed for), I thought "great, so be it". While these are just a few anecdotal examples, and of course I'm not inferring that leaving the EU would solve all of our economic problems, I'll be voting to leave as I oppose the nature of the EU's ideologies.

An argument I often hear on the left is that leaving the EU will trigger, or facilitate, a rise in xenophobic, closed-borders nationalism. While I do agree that this is a danger (there is a big difference between patriotism and unhealthy nationalism), the rise of the right and far-right across Europe scares me just as much. Just this week, Austria narrowly avoided a far-right president, with a victory for the centre-left of 50.3% to 49.7%. In Hungary, Denmark, and even Sweden, the rise of the right is reflective of the whole of

Europe. And personally, that doesn't entice me. An interesting parallel is the argument for devolution (the handing of more powers to local authorities) in this country. Many people who support giving more power to Cornwall or Manchester because they can't be governed in the same way as the London or the South East don't support leaving the EU.

Don't get me wrong though, I do think that the EU has some great policies and initiatives, and I don't think it's some malicious machine out to get us all. Of course, being STEM students, we can't overlook the benefits that Europe brings us in terms of scientific funding or collaboration. Freedom of

### The rise of the right and far-right across Europe scares me

I know I've omitted a lot of key points like workers' rights, the human rights act and trade agreements, but the EU debate has so many things to consider, and can split those on the right or on the left. On the left we should take a step back, and look at the real left issues, and not be (too) snobby about our Brexit counterparts. All in all, my main issue with this is the nature of the referendum. Do I want to stay in the EU, or be governed by pure, unadulterated Cameron and Osborne? Neither, really.



The referendum is not just a left-right debate. Photo Credit: BBC





## Science, what's good?

Lef Apostolakis  
Science Editor

### Vaping ads lure teens

Why is vaping taking the globe by storm? Hint: it's marketing. Yes, a new study shows that advertising works, especially on easily impressionable teens. The study from the University of Texas found that the use of e-cigs rose significantly with exposure to vaping ads but also that the more advertising media types the adolescents were exposed to, the stronger the nudge to vape became. It's noted that only between 2011 and 2012, spending on vaping marketing in the U.S. tripled, reaching an estimated \$18.3 million. Although there seems to be disagreement on how e-cigs should be treated from a health policy perspective, this study strongly suggests a similar course of action to the one we've seen in tobacco advertising.

Mantey et al. 2016, Journal of Adolescent Health

### Moon yields secrets

The moon is a mysterious seductress, but in a victorious moment, a team of scientists managed to shed light on two of her darker secrets. The Southwest Research Institute scientists in fact managed to discover two new craters on the dark side of the moon. The craters were found with the use of the LAMP instrument aboard the Lunar Reconnaissance Orbiter (LRO). LAMP uses the far-ultraviolet Lyman-alpha band skyglow and light from ultraviolet-bright stars to "see" in the dark and image the permanently shaded regions of the Moon.

These craters were particularly hard to study due to their immense depth, which makes them really hard to catch any light whatsoever. The team also determined their age, namely 16 million for one and somewhere between 75 and 420 million years for the other, which makes them relatively young geologically. The discovery will hopefully shed light on the birth of our solar system.

Mandt et al. 2016, Icarus

### Yellow fever spreading fast

Yellow fever (YF) has for the first time found its way into Asia. The findings come from a study from the International Journal of Infectious Diseases, which warns that if WHO doesn't take action, we may risk a progression from an outbreak to an epidemic. Although the YF vaccine is very effective there remain many large unvaccinated populations. So far there have been 2420 cases reported and 298 deaths. From the total number of incidents though less than a third have been clinically assessed. However it is suspected that the extent of the outbreak is much more severe, with the reported cases amounting to only two to ten percent of the total incidents. If these estimates are correct, the combination of spread through mass global transport and vaccination shortages could lead to a global health crisis. The main vector, *A. aegypti* is also of concern, since populations have grown, as demonstrated by the Zika outbreak.

Wasserman et al. 2016, International Journal of Infectious Diseases

### Babies should weigh just right

When babies are born prematurely, they're often extremely light and are immediately put in an incubator. Some might develop health problems later on, a known complication being cardiovascular disease. Seldom though will a heavy newborn weighing above the five pound mark elicit gasps of dismay from its parents ("I'm sorry Mary... Our baby... it's fat"). However a new study suggests that big babies might also have a higher chance of suffering from cardiovascular disease later on in life. The study looked at adolescents aged 14-18 and found that those with birthweight close to both ends of the spectrum were more likely to have dangerous fat around major organs. However, regardless of birthweight, the odds may be reversed with exercise and a healthy diet. The researchers behind the study give familiar advice: Don't smoke when pregnant and breastfeed. The former may stunt babies at birth while the later may provide much needed protection.

Stansfield et al. 2016, Journal of Pediatrics

### Are frogs ok now? No.

It's been many years now since amphibian communities started collapsing across the world. The global pattern has made many think that a single culprit lied in the epicentre of the crisis. Yet, despite the adoption of a range of approaches, nothing has been able to stave off the decline. A team of researchers from the U.S. analysed amphibian population trends across the continent and assessed the degree to which various threats contributed to the declines. They found that decline rate not only varies from region to region, but also that different factors such as human activity, or pesticide prevalence and of course disease (looking at you Chytrid fungus) contributed to the decline in different ways. Unfortunately the study doesn't provide a simple fix, quite the opposite; it rejects the existence of a smoking gun, a single culprit and subsequently a single solution. Things are complicated and saving amphibians won't be easy.

Grant et al. 2016, Scientific Reports

## It's hard out there for class A drug research

Imperial psychiatrist talks to Felix about the difficulties of psychedelic research

Lef Apostolakis  
Science Editor

Over the past year, a dozen patients have been fortunate enough to participate in an innovative study, led by Dr Robin Carhart-Harris, exploring a novel treatment for depression. Last week it was announced that all twelve, though resistant to conventional treatments, responded positively to this new antidepressant. Only it wasn't exactly a new antidepressant they were responding to. It was psilocybin, a compound known for making some mushrooms... magic. Psilocybin was in fact chemically isolated in the 50s and has been

celebrated in many cultures for millennia. Despite its cultural significance though, it is currently a class A, schedule I drug, making not only its possession a criminal offence that can lead to up to seven years in prison, but also making it nearly impossible for scientists to get their hands on.

For the conduction of the Carhart-Harris study for example, the artificially manufactured psilocybin had to be approved by the Home Office.

"It had to be stored incredibly securely in a certain building at Hammersmith Hospital and in order for us to prescribe it, you had to have your name on the Home Office high list as a schedule I prescriber" says Dr Camilla Day,

It is the alternative of not researching it that I find incredibly immoral

one of the psychiatrists helping on the study.

These strict regulations governing psilocybin use are a result of the 2005 Drug Act, which effectively made it easier to access highly addictive narcotics such as methadone, a heroin substitute, than shrooms.

But there's more than just bureaucracy hindering access and research. There's a stigma. As put by Day, "Although you don't see any objective evidence for preventing the research of these drugs, because of the whole cultural and moral status quo you are a bit anxious."

Indeed challenging the status quo can cost scientists their careers, as was illustrated by Professor David Nutt who lost his position as the government's chief drug advisor in

2009. But for many it is worth the risk. "This is a substance which could have beneficial effects for many people given in the right setting with appropriate support, and it is the alternative of not researching it that I find incredibly immoral" continues Day.

The sentiment is shared by many other researchers willing to stake their reputations studying medical applications of illegal substances such as Ketamine and MDMA. Day herself will continue working on the Carhart-Harris study, starting a randomised control trial next February.

"It is really important for this research to go ahead. We're at the forefront of an exciting field."



## Cosmic dust hints at alternate history

Naomi Stewart  
Writer

At the end of a white-washed hallway on the second floor of the RSM building, Dr Matthew Genge has been unlocking the mysteries of the universe through his research on micrometeorites – otherwise known as cosmic dust. Last week however, Genge published a paper in Nature which opened some doors to understanding Earth's secrets, and has potentially turned some age-old scientific theories on their head.

It's commonly thought our early atmosphere had little to no oxygen, and was mostly carbon dioxide like the choking atmospheres of Venus and Mars are now. However, 2.4 billion years ago, in the Great Oxygenation Event, ocean bacteria began multiplying and heavily breathing, bringing our atmosphere to the familiar, comfortable level of 21% oxygen.

This accepted view is now challenged based on the discovery of 60 micrometeorites found in the arid Pilbara region of western Australia, dated at 2.7 billion years old, 300 million years before this

oxygenation event. These tiny rocks were found to contain iron oxide, which had been transformed from traces of metallic iron. This elemental change must have required high levels of oxygen which the comet was exposed to as it fell through our atmosphere. These levels though are not supported by our current theories on the earth's early atmosphere.

After studying the dust and running mathematical models, Genge and his team realised the data unavoidably pointed to an oxygen rich atmosphere. As all previous research supported the theory of oxygen-starved lower atmosphere, it was time for Genge and his colleagues to think differently about early atmospheric composition: "We looked at the data in the papers saying oxygen was very poor in abundance at low altitude, and we couldn't fault it – that looks as if it's true. Our data looks as if it's true that there's lots of oxygen in the upper atmosphere, therefore we need to come up with a way of separating the lower and upper atmosphere."

Based on the evidence in the cosmic dust, the scientists theorised there must have been an oxygen rich upper atmosphere that was likely



We couldn't find a micrometeorite, so here is the cosmos instead. Photo Credit: Hubble ESA

separated by a thin methane haze from the lower atmosphere. This methane layer would have prevented mixing between the two, which would explain the data supporting the oxygen poor lower atmosphere. Where the oxygen came from is still unclear; the current working theory is that the sun's UV rays split CO<sub>2</sub>, but more research has yet to be done to figure out why.

In the meantime, Genge says

the plan is to keep looking for micrometeorites to study and "potentially do a time sequence and see how the dust changed". If lucky, they might find whether there were any changes in atmospheric oxygen content 2.7 billion years ago.

And while cosmic dust may seem far removed from our life, Genge argues sharing the fascination of research is key to sparking interest in science, which we should keep in

mind in our studies and research: "What we're doing is pushing the boundaries of science and coming up with these little gems about the past that excite people about science. I think if you talk to every single scientist, we all have an inherent interest in science, but there's usually a book or a newspaper story or something, National Geographic or something, that made you go: Wow that's really cool."

## Ice sheet melting faster than predicted

Lara Bailey  
Writer

Antarctica boasts the largest mass of ice on earth, a colossal 27 million km<sup>3</sup>, comprised of three vast ice sheets: the East, the West and the Antarctic Peninsula. With warming seas and climbing temperatures, scientists focused their attention on the West Antarctic Ice Sheet, due to its vulnerability to rising water temperatures, being grounded far below sea level.

However, new research from Imperial College institutions in Australia, New Zealand and the US, reveal that the East Antarctic Ice Sheet is becoming alarmingly unstable. The EAIS holds even more ice than its Western counterpart, which is already beginning to collapse, and is predicted to



Antarctica. Photo Credit: Christopher Michel

contribute four metres in sea level rise.

The new cause for concern is the circulating warm water beneath a critical part of the Totten Glacier, which is already beginning to collapse, and is predicted to

to the melting of the glacier, and if it retreats a mere 150km more, it will trigger a rapid retreat of up to 300km due to the interaction with the sedimentary rocks below. Now, this 300km retreat may take several centuries, but once this threshold

Any small changes have a big influence globally

is crossed, the stability of the rest of the glacier, moreover the East Antarctic Ice Sheet, will be left to the mercy of the elements.

The retreat would become unstoppable, causing a sea level rise of around 2.9m from this glacier alone. The theory behind this pattern of rapid retreat comes from studying the geology of the

rocks below the glacier. Following patterns of retreat and advance, evidence from geophysical surveys suggests much more rapid retreat when the ice hits more unstable regions of rock. These unstable regions could again come into play with the increasing rate of retreat.

The scale of the EAIS and Totten makes this discovery particularly concerning. Totten itself is around 220,000 square miles in area, bigger than the US State of California. In some parts the ice is 2.5 miles thick, so the potential loss of ice is massive. However, Totten is dwarfed by the size of the ice sheet it supports: the EAIS makes up two thirds of the entire Antarctic ice sheet.

Co-author of the study, Professor Martin Siegert, emphasises the need for concern. "The East Antarctic Ice Sheet is by far the largest mass of ice on Earth, so any small changes have a big influence globally."



## On the verge of a global health crisis

Felix finds out what Imperial researchers really think

Dr Wilko Duprez  
Writer

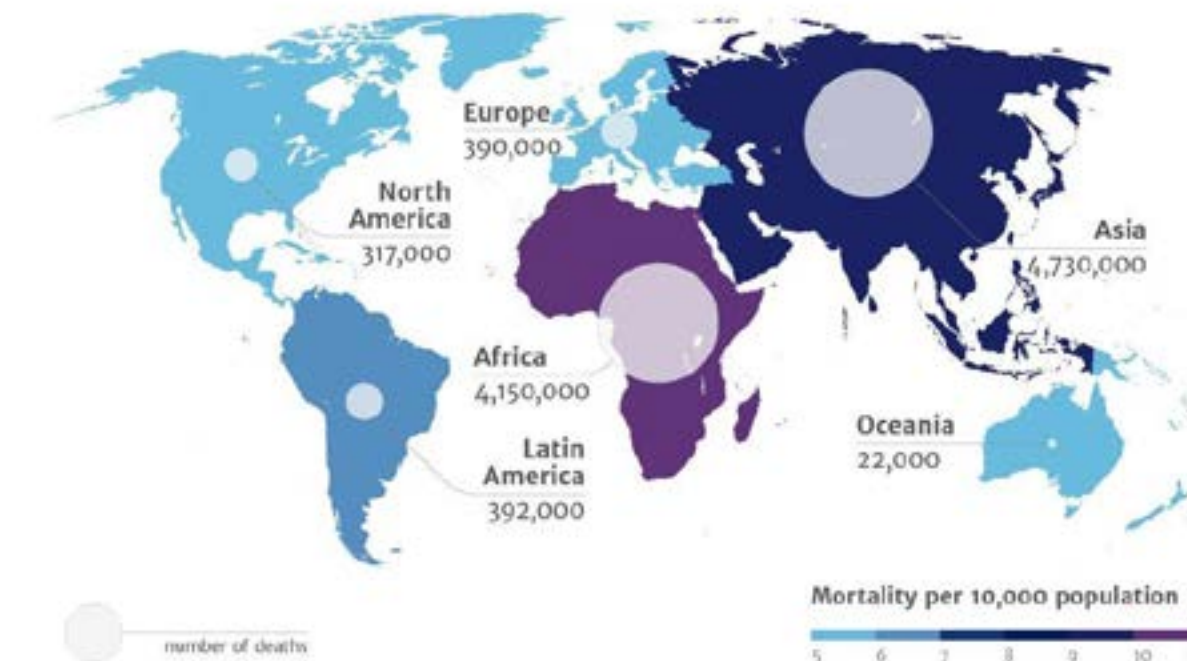
We do desperately need new antibiotics," said Dr. Andrew Edwards, a lecturer at Imperial College London and group leader at the Medical Research Centre for Molecular Bacteriology and Infection. "What we have seen recently is the emergence of some strains [genetic variants of bacterial species] resistant to all of our different types of antibiotics," he added.

"One of the big problems with antibiotics is that every time we make a new one, then we select for the bacteria that can survive in its presence. Every time we make a new antibiotic, very rapidly we see resistance arising and that has been happening since penicillin," commented Dr. Gwenan Knight, an Imperial biomathematician looking for patterns in drug-resistance development and dissemination in the community.

The concerns about antibiotic resistance are nothing new –

Every time we make a new antibiotic, very rapidly we see resistance arising

academics have been issuing warnings for decades. However, a new governmental report released last week by Jim O'Neill, the Commercial Secretary to the Treasury, predicts that consequences



Anticipated human death toll from antibiotic resistance in 2050. Photo Credit: 'Review on Antimicrobial Resistance'

would be much more catastrophic if drastic changes are not implemented soon.

The 18-month study forecasts that by 2050, superbugs would be responsible for 10 millions deaths a year, the equivalent of one patient every three seconds, overtaking the death toll from cancer.

According to the report, the biggest contributors to antibiotic resistance are the large-scale use of antibiotics in animal breeding in a preventive therapeutic action (including last-resort antibiotics), the little incentive for pharmaceutical companies to develop new drugs and the lack of accurate diagnostic tools for doctors to pinpoint the source of infection in patients. The latter leads to antibiotics being prescribed against infections that could stem from viruses against which the drugs have no effects.

The report is trying to address these issues with a series of proposals for future antibiotic development and usage which, although welcomed, might not act as straightforward as expected. For example, while it suggests to drastically restrict antibiotic consumption in animal

breeding, according to Dr. Knight "The Netherlands have been really good at decreasing use of antibiotics in agriculture, and they haven't yet seen the decrease in clinical drug resistance in hospitals."

Secondly, when it comes to the economic burden and the financing of R&D, the report suggests a monetary injection of 40 billion USD (approximately 27 billion pounds) every decade. However, the origin of the funding remains a subject of debate. Among the solutions proposed, the most controversial would be a tax on pharmaceutical company revenues to create a new pool of funding for antibiotic research. This measure



Thousands of glass fermentation vessels like this one were used in Glaxo (now GlaxoSmithKline) laboratories to produce penicillin. Photo Credit: Welcome Images

has already been criticized by the Association of the British Pharmaceutical industry, and might evolve in a national tax on antibiotic products instead. But both suggestions are highly contested by scientists.

"There's two problems: firstly pharmaceutical companies already spend a small amount on antibiotic discovery, so taxing them would limit the amount of revenues they have available," commented Dr. Edwards. "Secondly, because we have a National Health Service, taxing them [antibiotics] is just going to cost the taxpayer more to buy these drugs."

The report is also proposing as a measure the adoption of an appropriate diagnosis prior to any antibiotic prescription, by 2020 in developed countries. The problem is that such diagnostic tests do not yet exist, or are not fast enough to identify infections like meningitis that develops extremely quickly.

The fight against superbugs is extremely complex; there still remain many unanswered questions regarding the epidemiology of antibiotic resistant bacteria

and many of the researchers at Imperial are trying to tackle them. For instance, as part of the Antimicrobial Research Collaborative, Dr. Edwards' laboratory is trying to recycle outdated antibiotics by remodelling them with better efficiency and countering existing drug resistance mechanisms. He is also looking into disabling superbugs' natural defences for the immune system to clear out infections without the help of antibiotics. Dr. Knight, in an Imperial-based NIHR-funded research unit, is trying to figure out using mathematical models the source of superbug infections. She explained: "In England we use about 80% of our antibiotics in the community and 20% in hospitals, but we don't actually know where most antibiotic resistance is being generated."

The alarming O'Neill report is a source of controversy not only within academia but also within the business sector, but there is one thing everyone agrees on: the crisis is imminent and there is an immediate need for global action on rather than just national policies. "If

In England we use about 80% of our antibiotics in the community and 20% in hospitals

we happened to control antibiotic resistance just in the UK, it is going to be introduced from somewhere else around the world," concluded Dr. Knight.



## Drones evolve from killing to rebuilding

Gabriella Beer  
Writer

It is the 17<sup>th</sup> March 2011 and there is a distant humming from the sky over the Waziristan mountains, on the border between Pakistan and Afghanistan. Is it a bird? Is it a plane? No, it is an unmanned aerial vehicle (a drone to you and me) that is about to fire three missiles into a community meeting.

In this case the drone with its laser-guided missile remained faithful to its original military use, killing 40 civilians in a misinformed attempt to assassinate a Taliban senior.

First entering the skies in the late 1800s in balloon form, drones have since been intensely researched and developed by the U.S. army. Nowadays these unmanned, aircraft come in an array of shapes and sizes. They are used to investigate hard-to-reach places, such as the sheets of ice on the Arctic Ocean, and are pre-programmed to carry out a mission or controlled by pilots on

Their versatility is a result of the on-board machinery

the ground.

Their versatility is a result of the on-board machinery that make drones specific to their task. In an Arctic ice mission for example, the drone carries scientific instruments such as cameras capable of detecting visible and infrared light. This allows scientists to see the structure of disintegrating ice in areas where it would otherwise be perilous to tread. Military weapons and climate scientists aside, drones



Unmanned Vehicles entered the skies in the late 1800s, but have since diversified in their use. Photo Credit: Wikipedia

have found another friend: the 3-D printer. In February, Dr Mirko Kovac and his team at Imperial College London, together with partners at Bath University, UCL and the Dyson robotics lab, received £3.4 million for a project involving aerial construction-bots, this time arming drones with 3-D printing technology.

"These autonomous [self-directing] vehicles that are able to precisely deposit structural material

from the air, could manufacture buildings and repair infrastructure elements," says Dr Kovac, a specialist in aerial robotics.

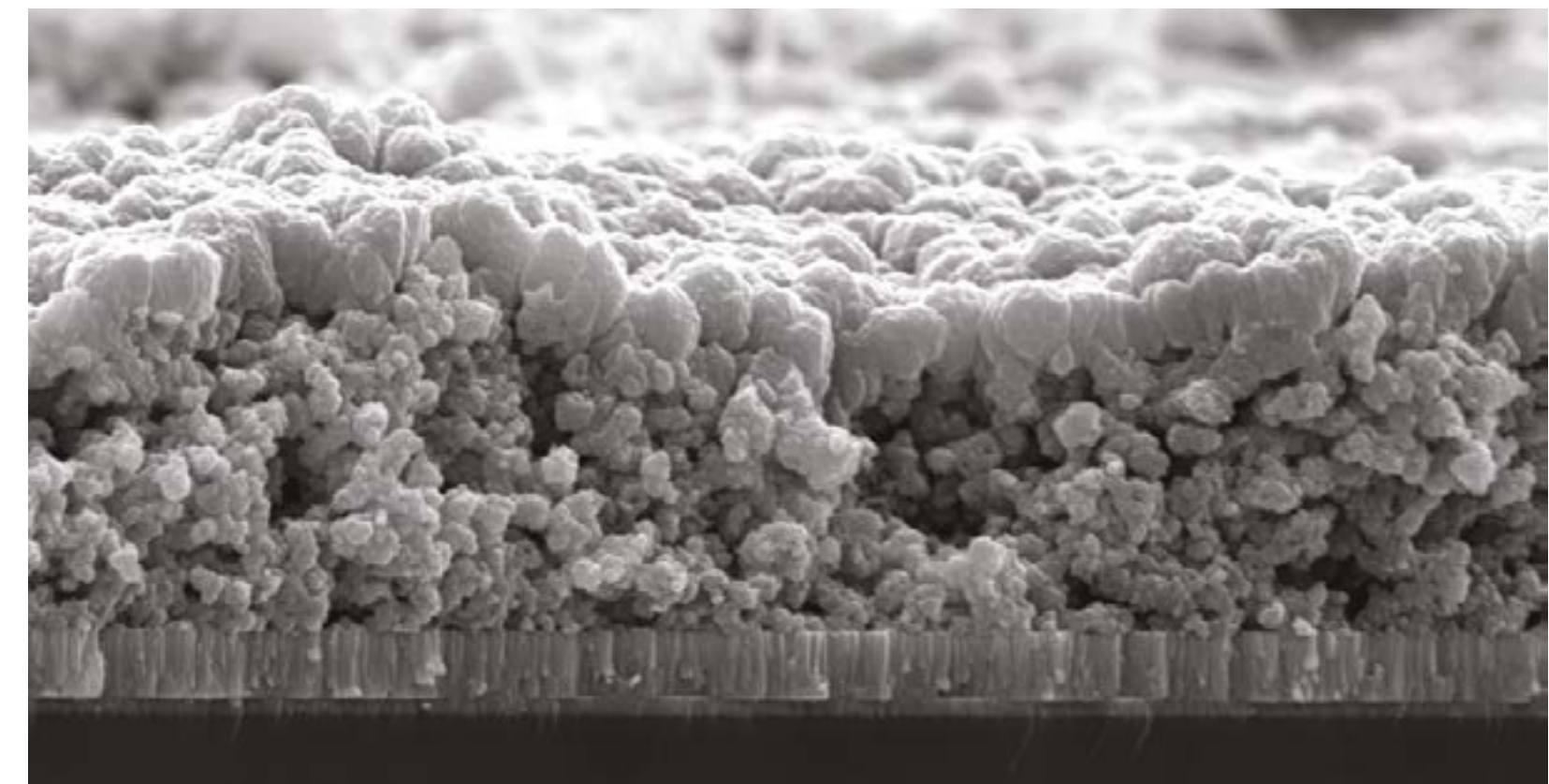
The process followed by these "builder robots" is called Additive Building Manufacturing (ABM) where drones excrete materials to build structures. In times of disaster all sorts of obstructions can prevent humans from accessing the damaged region. Dr Kovac's team are hopeful that this new technology will allow

robots to fly into these areas and print new buildings.

"The approach that we take to develop these vehicles is conceptually inspired from nest-building animals that build large structures using collective behaviours".

Thus thanks to scientists such as Dr Kovac, military technology is evolving. With the potential to rebuild lives, it seems drones have come a long way since the 17<sup>th</sup> March 2011.

## This week's science picture



This cross-section image shows nanoparticles of copper zinc tin sulphide laid down to create a solar cell. Photo Credit: Oregon State University

For 107 hours Portugal ran on renewable energy alone. From the 7<sup>th</sup> to the 11<sup>th</sup> May the country's electricity consumption was completely covered by renewable sources. Data analysis of national energy network figures revealed this. The Portuguese desire for clean energy was encouraged by the EU's renewable targets for 2020 and the UK also had their first ever week of coal-free electricity two weeks ago. Oliver Joy, a spokesman for the Wind Europe trade association said: "The Iberian peninsula is a great resource for renewables and wind energy, not just for the region but for the whole of Europe." So industry groups are focusing on green energy's export potential. With the right policies in place wind energy alone could meet a quarter of Europe's power needs in the next 15 years. Inflexible and polluting technologies are ending. The time has come for clean, renewable sources.

## Sign up for Fieldwork First Aid course



This Fieldwork First Aid course is designed specifically to meet the needs of those undertaking fieldwork in remote areas, since the outdoor environment presents unique problems, both for fieldwork planning and first aid. An ambulance could be hours away, so we give you the advanced skills and confidence you need to care for an injured or ill club member until external help arrives. This fieldwork course is designed to go beyond basic first aid and give our student volunteers undertaking fieldwork the key basic & advanced first aid skills they need in the outdoors. More importantly it will also give them the confidence to use those skills effectively in a fieldwork scenario.

**WHEN:** June 4 & June 5 2016, 9:00 - 17:30

**WHERE:** RSM Rooms G39 & G41

Find out more by visiting: [imperialcollegeunion.org/fieldwork-first-aid](http://imperialcollegeunion.org/fieldwork-first-aid)

## The Union Awards - nominations close Friday 27 May

The Union Awards celebrate the huge impact and hard work of our volunteers and showcase the best of Imperial College Union and our membership. The awards which are nominated by students and then decided by students, are awarded at our gala event in June. Altogether there are 14 awards across the board, each designed to recognise the great work that students do at the Union.

We need your nominations to help us shortlist students and groups for the Union Awards. Your nomination is supported by a short statement. This is your chance to tell us why they deserve to win that award, so please include examples; reasons and any information that will help! Categories such as Campaign Of The Year and Contribution To The College Life Award can be nominated in as many times as you want.

To login and nominate go to: [imperialcollegeunion.org/union-awards](http://imperialcollegeunion.org/union-awards)

## EU referendum - come to the debate on Thursday 2 June

The EU referendum is fast approaching. Haven't decided which way to vote yet? We'll have campaign teams around College for the next few weeks to give you all the facts you need to make an informed choice. **We'll also be hosting a debate on Thursday 2 June at 18:30 in Skempton** with speakers arguing both sides if you still need persuading either way.

Register to vote by Tuesday 7 June if you haven't done so already and get out to vote on 23 June; you can also vote by post or proxy if you won't be around on the day. You can also vote by post or proxy if you won't be around on the day but you need to make sure you apply for these separately. If you are living in halls you will need to make sure you are registered because changes to voter registration mean you are not automatically on the electoral register.



### Who is eligible to vote in the EU Referendum?

- ▲ British or Irish citizens living in the UK
- ▲ Commonwealth citizens living in the UK who has (or does not require) leave to remain in the UK

You can register to vote at [www.gov.uk/register-to-vote](http://www.gov.uk/register-to-vote)



## PC Music are not dead

Pop Cosmos proves the collective are still kind of relevant

Cale Tilford  
Music and Games Editor

Last Thursday's Pop Cosmos was another of PC Music's rare live shows, assembling together the collective for an evening of non-stop music. In the run up to the event at London's Scala, gig-goers are told that this is an evening to "lose yourself in an immersive journey to the end of time." The stage is decorated with poorly made space-age objects, and the merchandise stand is lined with reflective foil as if it were the outside of a space-craft. It's as if the collective are suggesting they are from the future, or at least accelerating at the speed of light towards it. I believe this understanding of PC Music is incorrect – future music is not headed in this direction. They are instead a reaction to mass consumerism and hyper-marketisation, critiquing the present.

While the **Danny L Harle** might have been top of the bill, this was an evening where all of the PC Music collective were equal. Each artist takes to the stage for no more than 30 minutes. The homogenous nature of the net label's catalogue results in an evening where the boundaries between each artist begin to blur. This is a collection of artists who

are variations and mutations of each other, often coalescing to form new projects.

The evening ends with a set from Harle, an artist who has quickly found his place at the top of the PC

Like good consumers, the crowd lap up their free gifts

Music hierarchy. His music is less alien and more accessible, compared to the obnoxious electronica of some of his peers. While other artists in the collective have made music that seems solely for personal consumption, Harle has written and produced tracks that are made for the club. Emblazoned on his t-shirts and interspersed throughout his set in the phrase "huge danny." And his music adheres to this; it is massive, epic, and "huge" in its radio



Sometimes I wish PC Music were sent on a rocket into space, never to return. Photo Credit: PC Music

success (relative to his PC Music collaborators). At one point Harle leaves the comfort of the mixing desk and prances around the stage shouting at someone dressed in a green morph suit. Soon they work together and throw free "huge danny" t-shirts into the crowd. Like good consumers, the crowd lap up their free gifts. Does Harle do this to mask the quality of his

set or is this all part of their hyper-consumerist critique? We'll likely never know, as the collective are incredibly secretive. As his set enters its final moments, he picks up an electric guitar and drones into the darkness of the night.

Before Harle's slightly disappointing appearance, **A.G. Cook** performs a smaller set of more experimental tracks. His brilliance is what holds the collective together, and his frequent collaborations with external artists gives him more diverse material for the evening. **QT** (of 'Hey QT' fame) drifts across the stage halfway through Cook's performance, delivering to Cook her branded energy drink. It's an ultimate tease that never pays off (to the crowd's disappointment).

**Hannah Diamond** joins him at the 20 minute mark adding her child-like vocals to his catchy chiptune-like backing tracks.

By far the highlight of the evening is **GFOTY** (Girlfriend of the Year), whose set comes off the back of the release of her latest EP, **VIPOTY**, performing the same songs as on her tour with Animal Collective earlier this year. Energetic, dynamic and unhinged, she shares the stage with two dancers who play off her moves. To the amusement of the room, GFOTY starts her time on stage with 'Got My Chad,' miming with

a high-school prom inspired band. Soon after this mock performance is finished and the suits are thrown off, the real set starts. GFOTY screams and shouts at the audience, admitting that she is no singer. Her music is more spoken word than singing and there's an honesty to her lyrics that makes her so refreshing. Each artist that is part of the PC Music project has their own distinctive character, and among these GFOTY is most interesting. It is an obvious parody of lad-culture from a female perspective. Whether or not her performance is empowering, however, depends on your perspective of casual sex and intoxication. GFOTY is no stranger to controversy – with a number of unacceptable racist remarks in the past – and her performance reflects this; it is provocative, lyrically and in its choreography. As she leaves the stage much of the energy of the night leaves too.

The order of the night has no relevance. There is no clear progression between the slightly distinct sounds. Others in the collective also make appearances, but they are barely memorable. I once thought PC Music were deadly serious, but it's obvious they're a joke – a parody of popular culture – even if they aren't willing to admit it.



This is very important music. Photo Credit: PC Music



# Escaping the uncanny valley

Uncharted 4 sets the course for the future of gaming realism

Cale Tilford

Music and Games Editor

A major criticism of the Uncharted trilogy has always been that it is more style than substance, that it focuses too heavily on glorious set-pieces and stunning scenery to mask its flaws. That is not to say that these games don't have substantial playable elements – they do – but the gameplay that does exist is often shallow and poor when compared to the genres it borrows from. The gameplay element most criticised in previous titles was the third-person gunplay. Imperfect controls plagued these repetitive sections which make up a large part of the Uncharted series. Many would argue (myself included) that the games would be better if shooting were removed completely. A few years after the release of Uncharted 3, Naughty Dog released The Last of Us, which fixed many of these issues. Uncharted 4: A Thief's End relies heavily on the improvements that made The Last of Us a critical success. It's more serious in tone, relies less on set-pieces, and feels more natural (in all of its gameplay mechanics). This is easily the best game Naughty Dog have ever made, the best game on the PS4, and a historic moment in video game history. It is the first game that truly moves beyond the uncanny valley



Uncharted 4 and chill. Photo Credit: Naughty Dog

into astonishing realism.

Photorealism has been a goal since the dawn of video games. In the past the limits of technology resulted in artists making stylistic choices to create attractive games regardless, while some rejected (and continue to reject) photorealism altogether. It is only now with the sheer power of modern consoles that consumers

are able to render interactive environments – in their own home – in such detail. Uncharted 4 transports us to bright green jungles where each tree, branch, and leaf sways effortlessly in the wind. Drake and his companions travel to ancient cities in decay and lively modern tourist destinations. To emphasise the expansiveness of

the world that they have created, the sea is nearly always in view. It's rare for the player to ever feel enclosed (unless they're in a cave, obviously) or constrained. The game might be linear, but it feels like an 'open' world. Naughty Dog

These spectacular graphics are the result of more than just detailed geometry and textures; developers Naughty Dog showcase some of the industry's best lighting effects. It is this aspect of its graphics that makes the game truly stand apart from its predecessors (and even the recent Uncharted trilogy collection released on PS4). The game not only takes place in many locations, but in a variety of different lighting conditions. Some chapters play out completely at night (or day), while others take place entirely in underground caverns. The light that brings visibility to these areas – whether it be a lighter, torch or flame – also creates incredibly realistic shadows. A frequent sense of claustrophobia is the result of these technologies; as much as Uncharted has always been about exploring and being out in the open it has often contrasted this with the fear of being trapped in ancient tombs and structures. With much of the game taking place near, or on, the water, Naughty Dog have ensured these bodies of liquid look gorgeous and react to external forces in the way you would expect. Frequent close-ups of Nathan Drake's glistening

## The game might be linear, but it feels like an 'open' world

go beyond what is necessary - they create stunning vistas and endless sprawling cities as mere backdrops to an already detailed foreground. To experience everything the game has to offer you must leave no area, however small, uncharted.



A game where you get to spend some quality time with the lads. Photo Credit: Naughty Dog



forehead only affirm the excellence of the technology on display.

The other aspect of Uncharted 4's presentation that deserves praise is its animation. Playing as Drake you feel like you inhabit a physical space, as his body reacts to crowds (similar to the Assassin's Creed series), action, and environmental destruction. Even more impressive is the utilisation of facial capture to animate the faces of the games

## Naughty Dog showcase some of the industry's best lighting effects

cast. Unlike games such as L.A. Noire (which was unable to escape the uncanny valley), Uncharted 4 blurs the line between digital characters and film. The excellent contributions of the voice actors, Nolan North and Troy Baker (voicing the Drake brothers), help in this regard, delivering some of their best performances so far.

Previous games in the trilogy were



Is this the real life or is this just fantasy? Photo Credit: Naughty Dog

not known for the quality of their scripts, and the supposed final game is not much of an exception. For a game that glosses over unnecessary death, it is surprising that the script has so many reflective moments. These are mainly conversations between Nathan Drake and his wife Elena, examining their relationship and questioning the actions that cause the game's major conflicts. Naughty Dog also play with narrative and structure with one chapter in particular being a great (and surprising) example of unreliable narration. The subtitle of the game, "A Thief's End", has

multiple meanings. One of these refers to the infamous pirate, Henry Avery, whose story is told over the course of many chapters. It is his treasure (valued in the hundreds of millions) that the Drake brothers chase after. To find it they travel to the secretive pirate colony of Libertalia. Throughout this journey the environments that the brothers encounter tell stories themselves, depicting the rise and downfall of a once revered man. Their quest is not helped by the obstruction of the treasure hunter Rafe Adler who has hired the help of Nadine Ross and her private military firm (who serve

as the game's main bullet fodder). The motivations of these villains might be barely explained but they are sinister nonetheless.

The problem with talking about the gameplay of Uncharted is that it is always the least interesting aspect of the experience. While the gunplay has been improved it's still the most tiresome part of the game. To Naughty Dog's credit the length of these shooting sections has been substantially reduced and they are now more equally distributed

feel like padding and when massive distances have to be traversed players drive vehicles instead. Among the features added to the game, the most exciting addition is the new rope swinging mechanic which is used to cross vast distances and chasms. This is an extension of the already fluid system of climbing and overcoming obstacles and adds thrill to exhilarating escape sequences and moments of disaster. If Uncharted was not the videogame version of Indiana Jones before, it certainly is now.

## One of the defining games of the action-adventure genre

It is not an exaggeration to proclaim Uncharted 4 as one of the defining games of the action-adventure genre so far – it does so much right (although admittedly only after years of experimentation and refinement). What it fails to do is fully explore the other meaning of "A Thief's End." This is obvious a reference to the end of the series and Nathan Drake as a thief. Yet for all he has stolen he never questions the the imperialist nature of his actions, or the actions of those he is chasing after (Henry Avery and the rest of his pirate society). We are free to plunder the environments of Uncharted – in fact, we are rewarded in doing so – yet this is never questioned. Drake takes these cultural artefacts and stores them in an attic where no one else can experience them, an act of selfishness that Naughty Dog seem intent on ignoring.



Time to mingle. Photo Credit: Naughty Dog

# Imperial College London



## Student Support Fund

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Student Hub, Level 3,  
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[www.imperial.ac.uk/fees-and-funding](http://www.imperial.ac.uk/fees-and-funding)



## Documentary corner: *Grey Gardens*

**E**dith Bouvier Beale, or Little Edie, is a staunch character. S-T-A-U-N-C-H. She doesn't weaken, no matter what. That's what she tells directors Albert and David Maysles, whose 1975 feature documentary *Grey Gardens* captured Little Edie's spirit – once a young socialite on the town, now living in a dilapidated mansion in East Hampton, losing her hair, and surrounded by cats. *Grey Gardens* takes its name from the house in which Little Edie lives with her mother – Edith Ewing Bouvier Beale, or Big Edie – but really it is the two women, and their dysfunctional relationship, which lies at the heart of the film.



Little Edie outside the derelict mansion on the Grey Gardens estate. Photo Credit: Portrait Films

Pushing their unique, daring brand of direct cinema, the Maysles brothers first heard about the two Edies in the early 1970s, when the squalid conditions in the house were brought to light – by the New York Magazine no less. You see, Big Edie was the aunt of Jacqueline Onassis, the widow of JFK, and America's all-round sweetheart, making Little Edie her cousin. But while Jackie O was living a life of luxury, the Edies had fallen from grace spectacularly.

Cooped up in the mansion with innumerable cats and an infestation of raccoons, the two women fight and bicker, screeching at each other in high-class New York accents; their relationship is one of complete dependence – despite all their fighting, it is clear that neither would last long without the other. Both had dreams of stardom – Big Edie with a singing career, Little Edie with her dancing – but now

they are confined to showing off to the Maysles, who are afforded a privileged glance into their world. Big Edie spends much of her time in her bed, eating boiled corn and pâté, so it's Little Edie who eats up the majority of screen-time. She's a true eccentric; coming out of the house one morning, she talks to the brothers through her outfit: 'the best thing is to wear pantyhose, under a short skirt, and then you can pull

the stockings up over the pants, and you can always take off the skirt and use it as a cape...so I think this is the best costume of the day...mother wanted me to come out in a kimono, so we had quite a fight'. The whole film is shot through with such moments, from her reading her astrology book – 'all I have to do is find this Libra man' – to telling us about her interests – 'I only care about three things: the Catholic

Church, swimming, and dancing' – everything Little Edie says is a complete gem. But ultimately, Little Edie is much much more than just a collection of quotes and quirks wearing a headscarf: she's a living, breathing person, one whose life has been peppered with disappointment, dependency, and unfulfilled dreams. The Maysles treat her and her mother with complete respect, conferring the women a dignity that the press would not offer them. While some would call their work exploitative, the softly-spoken presences behind the camera are so adept at letting us see the Edies' world, allowing us to empathise deeply with them, that the finished result is one of admiration and complete acceptance. So ensconced are we in the Edies' world, that when they invite a couple of outsiders in for a birthday meal, it's the regular folk who end up looking strange. *Grey Gardens* is a film for all those who don't fit in with society. For all the Little Edies of the world. For all the staunch characters.

FRED FYLES




## Your Officer Elections

Make a difference at Imperial.

You can run for the following positions:

- Deputy President (Finance & Services)
- Black & Minority Ethnic Students Officer
- Disabilities Officer
- Gender Equality Officer
- ICSMSU: Academic Officer for Clinical Years
- ICSMSU: Communications Officer
- Dep Reps
- Graduate Students' Union (GSU) Committee

Nominations open Tuesday 31 May.

For more information visit [imperialcollegeunion.org/elections](http://imperialcollegeunion.org/elections)





## The EU contribution to the Arts

Why only a Remain vote on June 23<sup>rd</sup> will benefit the future of British art



Acts for the 2016 LIFT Festival which is funded through Creative Europe. Clockwise from top left, MINEFIELD, Calling Tree, Miss Revolutionary Idol Berserker and YOUARENOWHERE by Baranova. Photo Credits: Manuel Abramovich, Tony Fanning, Cyclone A, Maria Baranova

Max Falkenberg  
Arts Editor

According to the Leave campaign, it is to the tune of £350m a week that the patriarchal dictators in the EU extort our poor impoverished island. As the great cultural icons Boris and Nigel might like to believe, if it were not for the bloodsucking greed of the EU, each and every British family up and down the country would be wading in the newfound riches of our great free trade state. Of course the numbers are wrong, but that would make for a less punchy tagline. Including Thatcher's renegotiation of the UK's EU contribution in 1984, the British rebate drops the actual sum to around £250m. But even still, the whole idea of sending away billions to the EU misses the

point – the majority of that sum is sent back in all the different shapes and sizes of EU spending in the UK. Disgraceful I know, not only does

**175 UK cultural organisations benefitted from €39m in Creative Europe funding**

the EU flood the UK with unwanted migrants, they also have the cheek to think that they know best when it comes to spending in the Britain.

Maybe so, maybe not, whatever the truth, anyone claiming that the issue isn't disastrously complicated is probably lying. However, in one area the EU is surely nothing but a force for good – amongst the many other EU spending receipts, there is one stack devoted to supporting UK arts and culture.

While the Arts Council remains officially neutral, their statistics show that over the 2014-2015 spending period, 175 UK cultural and creative organisations benefitted from €39 million in Creative Europe funding – the UK being the second biggest beneficiary after Germany. From projects on the artistic impact of ceramics to the world renowned Hay Festival, EU funding for the arts is diverse and differentiating. On a wider stage, many recent highlights in British cinema have come with the assistance of EU funding including the likes of *The*

*King's Speech*, *Slumdog Millionaire* and this year's Palme d'Or winner

**Recent highlights using EU funding including Palme d'Or winner *I, Daniel Blake***

*I, Daniel Blake*. While many might moan at thousands being spent on niche art projects, the preservation

and advancement of culture will always come in forms that are not to everyone's taste. Equally, while some might argue that this degree of arts funding could be matched if we left the EU, the past six years of reduced government spending on culture suggests that this is unlikely. But the EU's contribution to UK arts is more than just the Creative Europe funding. A number of cultural institutions have benefited from the work of the European Regional Development Fund and programmes including Erasmus and Interreg make substantial investments in British creative institutions.

To satisfy those most interested in the economic argument, it is worth remembering that the EU's position as the UK's largest trading partner also applies to the creative industries. For every £1 invested in the creative industries, an additional £2.01 is



generated in the wider economy. With the arts contributing a total of £7.7 billion to the UK economy in 2011, the sector is thriving despite

**Brexit has been described as a "huge creative step backwards" and "artistic isolation"**

recent cuts. As is always the case, some groups have complained about EU regulation on the export of cultural goods. However, the fact that Europe's cultural heritage cannot be sold by Christies to the Middle East and Asia is probably a good thing.

One clear example of the EU's benefit is through initiatives such as the European Capital of Culture. Although the UK has not been host since 2008 when Liverpool was awarded the title, this yearly event has seen major benefits for each city both economically and

artistically. With reports showing a £750 million boost to Liverpool's economy and a 10% rise in visitation numbers at museums and galleries, the economic benefits of the UK seem clear. Unfortunately, with the UK being only one small part of the wider EU community, we need to wait until 2023 for the European Capital of Culture to return to the UK where Leeds and Dundee have been cited as hopefuls, but in the meantime, it is worth remembering that the EU project is as much about cultural unity as it is about economic prosperity.

Increasingly, the work of artists is becoming less bound by the

**Maybe it is the role of art to remind everyone of the importance of this cultural union**

traditional geographic borders and international collaboration has become the norm. From the point of view of the artists themselves

the prospect of Brexit has been described as a "huge creative step backwards" and "artistic isolation." Only last week, 282 of the leading

**Members of the Creative Industries Federation .... recently polled, [with] 96% being in favour of remaining in the EU**

creatives in the UK signed an open letter urging support for remaining in the EU. With the likes of Poet Laureate Carol Ann Duffy, actors Bill Nighy, Benedict Cumberbatch and Keira Knightly, and industry executives from leading production companies and publishers, creative support for the EU is overwhelming.

While the financial benefit for creatives at the top is clear, many smaller, less influential artists show equally strong support for the EU. With members of the Creative

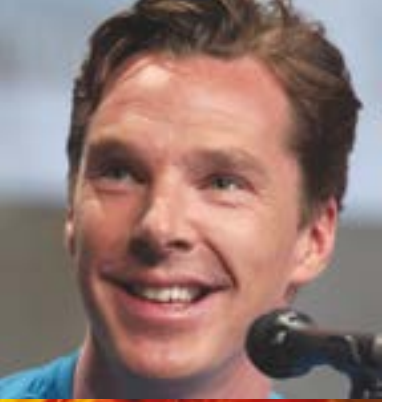
Industries Federation being recently polled, a huge 96% responded as being in favour of remaining in the EU. With over 2.6 million people employed in the creative economy, it would be naive to think that leaving the EU would not harm our creative output. Of course, as the *Mail Online* said so eloquently, the creative industries are filled with "desperate left-wing luvvies," so it is no wonder that there is strong support for the EU, but that should not negate the powerful voice of this influential community.

In the end, I anticipate that the arts will be a quiet bystander in the final arguments for staying or leaving the EU. With much of the Leave campaign's argument focused around anti-immigration bigotry, you could easily vote for staying in the EU on purely moral reasons without worrying about the arts. However, in this time of European division and the rise of radical anti-EU parties on the continent, maybe it is the role of art to remind everyone of the importance of this cultural union. The EU is far from perfect, and there are many legitimate reasons one might want to leave, but doing so without long term harm across different sectors and especially in the arts is not going to happen.

*ICU is holding an EU debate on the 2<sup>nd</sup> of June in Skempton 164*



Palme d'Or winner Ken Loach whose film *I, Daniel Blake* was funded through Creative Europe. Photo Credit: Thibault Camus



Signatories of an open letter from the CIF supporting EU membership. From top: Carol Ann Duffy, Benedict Cumberbatch, Vivienne Westwood, Anish Kapoor and Sophie Okonedo. Photo Credits: Chris Jackson, Gage Skidmore, Graeme Robertson, Rob Stothard, Amanda Friedman.





# FRIDAY 27 MAY

## COMMON PEOPLE



A NIGHT OF 90S AND 00S INDIE, ROCK AND BRIT POP FLOORFILLERS!

Free entry to the first 25 people who post their song choice on the wall!

FRIDAY 27 MAY  
20:00 - 02:00  
METRIC & FIVESIXEIGHT

£1.50 Guestlist  
£2.50 On the door  
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Buy two cocktails for £7.60

Every Friday from 20 May, starts 17:30

## COMING UP!

| Venue                 | Regular Events           | Time          | Day                |
|-----------------------|--------------------------|---------------|--------------------|
| Metric & FiveSixEight | Common People            | 20:00 - 02:00 | Friday 27 May      |
| FiveSixEight          | Super Quiz               | 20:00 - 22:00 | Every Tuesday      |
| Metric                | Cocktail Night           | 18:00 - 23:00 | Every Tuesday      |
| Metric & FiveSixEight | CSP Wednesday            | 19:00 - 01:00 | Every Wednesday    |
| Metric & FiveSixEight | Club Night               | 20:00 - 02:00 | Every Friday       |
| h-bar                 | Pub Quiz                 | 19:00 - 21:00 | 2nd & 4th Thursday |
| h-bar                 | PGI Friday               | 16:00 onwards | Every Friday       |
| Reynolds              | Quiz Night               | 19:00 - 23:00 | Every Monday       |
| Reynolds              | Board Games & Film Night | 18:00 - 23:00 | Every Tuesday      |
| Reynolds              | Pool Club                | 18:00 - 23:00 | Every Wednesday    |
| Reynolds              | Pizza Club               | 18:00 - 23:00 | Every Thursday     |
| Reynolds              | Cocktail Club            | 17:30 - 01:00 | Every Friday       |
| The Foundry           | Quiz Night               | 19:30 - 22:00 | 1st & 3rd Thursday |

# FELIX TV

## The Zombies are coming

Saad Ahmed  
TV Editor

Ever since it was introduced, *The Walking Dead's* popularity has soared through the roof. Another Zombie apocalypse styled story, the franchise has a comic book, TV series, video game, and now, with *Fear the Walking Dead*, a spin-off TV series. With the main show still airing and already in place however, it begs the question, does this show add anything new and substantially different?

The short answer is yes: there's enough to differentiate this spin-off series from the adventures of Rick Grimes and company in Atlanta. *Fear the Walking Dead* takes place on the other side of the United States and features completely new and different characters to root for (and eventually weep tears for). The most significant difference however, is the fact that it takes place in the early days of the apocalypse; we get to see a normal functioning society descend into chaos and disorder. This was a time period skipped over in the original series as it went straight into the action.

The premise alone does make this show intriguing and engaging to watch. Who doesn't want to see the big and bustling metropolis of Los Angeles descend into chaos? As the show goes forward, we see the first zombies make their presence felt. It's a slow burn from a seemingly normal day to a society where law

We get to see a normal functioning society descend into chaos and disorder

and order breaks down altogether. The show is wracked with tension and suspense as events happen one after another and things escalate to new heights. There are several effective moments which detail the fall of a city, from cops taking down a zombie on a freeway, to a SWAT team surrounding a hospital.

The main characters of the show are part of a large and dysfunctional family group. For the most part, everyone is written like real and believable characters. However, a couple of them are teenagers, and with this, we get the cliché and annoying problems that come with them. One of the characters, Nick Clark, is a heroin addict who finds himself suffering from withdrawal symptoms and is constantly trying



Oh hey, an Imperial student after finishing their exam. Photo Credit: AMC

to get a fix, scavenging through people's medicine cabinets. Another character, Christopher, is the typical rebellious teenager: difficult at times and resentful of his father's divorce.

The dysfunctional family unit meant that there was also some unwanted drama between ex-wives and difficulty with cooperation in general. However, eventually, everyone is able to band together and work against the craziness around them. Not everyone makes it to the end, obviously, but characters are able to shed some of their annoying quirks as things go on.

However, before people start working together, a giant ditch of dumb decision takes place. As is usually common with the survival horror genre, characters act like boneheads at times and as viewers,

this is especially frustrating to watch. For example, near the beginning, some characters with more experience refuse to have stark and serious conversations about what's been going on. The whole 'in the dark' aspect acts like an unnerving security blanket in season one, where people don't know things and have information kept from them which leads to an infuriating block of central characters.

I don't want to sound too negative but the dumb decisions and choices are a semi-regular occurrence, and these are what ultimately hampers the show from becoming much greater than what it currently is. Occasionally there's some good stuff done by the characters here and there and when they deal with the fallout of their actions, it can be

refreshing to watch.

Amidst these bad choices, there is a great deal of good stuff that comes out which makes everything worth it. Some of the characters are compelling and have interesting back stories that reveal what makes them tick. Two which stand out the most are Colman Domingo as Victor Strand, a shady ex-businessman who is basically this show's Carol (main series badass) and Rubén Blades as Daniel Salazar, a Salvadoran refugee who would protect his family at any cost.

The setting also changes as the characters move around, each with its own style and charm. Along the way, new characters show up that we get to meet (and watch die). In addition, the story moves in interesting and unique directions which grab your attention and make you want to see how things go along. For example, there's an escape on a yacht! How that happens and where it leads to is something that leaves you wanting more.

*Fear the Walking Dead* may have seemed like an unnecessary spin-off at first, but it has grown to become its own unique thing. While some choices and plot elements can be frustrating to watch, there is ultimately more good done than bad. With the second season currently airing and the show having been renewed for a third, it is definitely interesting to see how these particular group of survivors will fare in the zombie apocalypse.

*Fear the Walking Dead* is available on Amazon Prime and Hulu



A new slew of characters take on the apocalypse. Photo Credit: AMC

The story moves in interesting and unique directions which grab your attention



tv.felix@imperial.ac.uk

# FELIX TV

## A Eulogy for Shows No More

Henry Wild  
Writer

As the renewal period for shows finally winds down and writers once more begin plotting ahead, networks start to announce which shows didn't make the cut. The major victims for this season are the singing competition powerhouse *American Idol*, the country-music drama *Nashville*, and a personal favourite of mine, the Nathan Fillion driven, crime procedural *Castle*. But, as much as we mourn the recently departed, the reasons why individual shows are cancelled are quite varied.

The most common reason for a cancelled show will be a lack of viewer interest. It simply isn't drawing in the numbers, and more importantly the advertising money, that the network wants, and so off with its head. This is especially true if the lack of advertising money means that the show is turning a loss for them. After all, my future bankers, why do anything if it doesn't earn you a good chunk of money?

Shows can also be cancelled due to infighting about any number of things, from the creative direction of the show to conflicts between some of the people involved. The management might also decide to axe the show in order to make room for a hopefully better and more profitable one.

Why do anything if it doesn't earn you a good chunk of money?

More satisfyingly though, some shows are simply cancelled once they've run their course. The writers and director have told the story that they wanted to tell, and so rather



On the plus side, Nathan Fillion's schedule is free! Photo Credit: ABC

than letting it go stale they just cease work on it. While some executives are of the 'bleed it dry' philosophy, and will never cancel a show if it's still bringing in the green, that rare breed of management who actually believe in giving shows a satisfactory ending crops up often enough that the TV format is still going (fairly) strong.

Some of the more famous casualties of recent times include gems like *Arrested Development*, an award-winning sitcom about a family of narcissistic idiots, *Pushing*

*Daisies*, the fantastically absurd story of a pie-maker with the ability to resurrect the dead, and *Firefly*, a 'space western' by Joss Whedon with one of the largest and vocal cult followings. Weirdly enough, being cancelled often doesn't mean that content stops being made for the show. It's generally the case that when a show with a large fan base is cancelled, the staff behind it will be bombarded with requests for a renewal or for more content in that universe. Occasionally these fans get exactly what they wanted.

Care in point, *Star Trek* was cancelled after three seasons. However, due to massive fan support the show eventually returned to TV as *Star Trek: The Next Generation*, and the franchise is alive today with the new series of rebooted films.

So, as much as we might get angry at a network for cancelling our favourite show, try and think positively. For every great show that stops being produced another takes its place, and if that sucks, who knows, we might get a reboot. Unless that sucks as well.

## This Week on *Game of Thrones*



Now the tables have turned. Photo Credit: HBO

Anurag Deshpande  
Writer

It's a fairly eventful week in the most recent, unfortunately weaker, episode of *Game of Thrones*. Right off the bat, we're treated to perhaps one of the biggest reveals in the series; the origin of

the White Walkers. The problems start here, because this scene sorely lacks the gravitas it requires and as a result has nowhere near the impact that it should. The fact that it just sort of happens, out of nowhere, doesn't help.

Perhaps if it was done a bit later in the series, with more time dedicated to it and more questions answered

it would've felt weightier. In its defence, however, there were a few interesting things to be noticed in this scene. In particular, one of the Weirwoods having a serious case of Max Von Sydnow face and the fact that it is spring this far north. In retrospect, this also raises some further interesting questions about the nature of the Walkers, but, at the time, I was underwhelmed.

Funnily enough, my favourite moments of the episode were the relatively low-key ones. Jorah and Dany's reunion and prompt re-separation was fantastic. This was narratively a great place for Jorah's arc to go and, honestly, I wouldn't mind too much even if this was its end. But, I don't think we're quite done with him just yet (crazy theory time: Jorah will end up meeting Arya/the Faceless Men given their and Greyscale's mutual links to the Doom of Valyria).

All things considered, it was nice to see the Andals finally admit his

In war, even the 'good guys' can't stay good for very long

feelings out loud, and accept his fate. Equally, it felt well-earned to have Dany finally acknowledge how much she values his friendship and would be impacted by his loss. The scene had beautiful pangs of finality and regret, thanks in no small part to Emilia Clarke's excellent performance. It further serves to make her realise the folly

of arrogant tendencies; having potentially driven one of her closest friends to his death. Dany, for better or worse, takes the world for what she wants it to be rather than what it is; reflected in her desperate order to Jorah to find a cure for himself, instead of a heartfelt goodbye.

Finally, there is the great tragedy of Hodor; his life ruined just so that he could die alone in the cold, screaming, and so far from home. The death itself was unusually poetic and heroic for the series. Though, to me, the origin of the name felt incredibly cheesy. Poor Willis' fate at the hands of Bran ties back into the Children's creation of the Walkers; a grim reminder that in war, even the 'good guys' can't stay good for very long. Oh yeah, and the Kingsmoot happened; but you can tell how shit that was by how little I've mentioned it.

*Game of Thrones* is available on HBO Go



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# FELIX PUZZLES



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# FELIX PUZZLES



fsudoku@imperial.ac.uk

A large grid with numbers, likely a solution to a puzzle. The grid is 24 columns wide and 24 rows high. Numbers are placed in various cells, representing a solution to a puzzle. The numbers range from 1 to 26.

A crossword puzzle grid with numbers. The grid is 24 columns wide and 24 rows high. Numbers are placed in the starting cells of the words. The numbers range from 1 to 24.

A crossword puzzle grid with numbers. The grid is 24 columns wide and 24 rows high. Numbers are placed in the starting cells of the words. The numbers range from 1 to 24.

Across

Down

- 1 Ornate architectural style (6)
- 4 Debated (6)
- 8 Acute (5)
- 9 Woodwind instrument (7)
- 10 Brother or sister (7)
- 11 Additional (5)
- 12 Asked for (9)
- 17 Holiest city of Islam (5)
- 19 Fiasco (7)
- 21 Unnatural-sounding and over-formal (7)
- 22 Larceny (5)
- 23 Barren area (6)
- 24 Picked (6)

- 1 Stand up to (6)
- 2 Compartment (7)
- 3 Isle in the Bay of Naples (5)
- 5 Stories (anag) (7)
- 6 German sub (1-4)
- 7 Concerning teeth (6)
- 9 Conceited (3-6)
- 13 US coin (7)
- 14 Titled lady (7)
- 15 Diverted (6)
- 16 Substance used for setting jams and jellies (6)
- 18 Fries (5)
- 20 Female dog (5)

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
|   |   |   | 7 | 4 |   |   |
| 4 | 5 | 3 | 2 |   |   |   |
| 7 | 1 |   |   |   | 2 |   |
| 1 |   | 8 |   |   | 3 |   |
| 5 |   |   |   |   | 9 |   |
| 6 |   |   | 9 |   | 8 |   |
| 5 |   |   |   | 1 | 2 |   |
|   |   |   | 8 | 3 | 7 | 6 |
|   | 6 | 9 |   |   |   |   |

|   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|
| 8 | 4 |   |   |   | 2 |   | 7 |
|   |   |   | 4 | 3 | 2 | 9 | 8 |
|   | 3 |   |   | 7 |   |   |   |
| 9 | 2 |   |   |   |   |   | 5 |
| 5 |   |   |   | 1 | 7 | 8 |   |
| 8 |   | 9 |   |   |   | 7 | 6 |
|   |   |   |   |   |   | 6 | 9 |
|   |   |   |   | 6 | 8 |   | 4 |
|   |   |   |   | 9 |   |   | 7 |

## Solutions

Riddles: "Echo" and "X"

Cryptogram: "When a man takes one step toward God, God takes more steps toward that man than there are sands in the worlds of time."



Send in your solutions to [fsudoku@imperial.ac.uk](mailto:fsudoku@imperial.ac.uk) before midday on Wednesday!

## FUCWIT

### Solo Efforts

|                  |                     |      |
|------------------|---------------------|------|
| 1 <sup>st</sup>  | Cherry Kwok         | 345  |
| 2 <sup>nd</sup>  | Nicholas Sim        | 316  |
| 3 <sup>rd</sup>  | Ayojedi             | 117  |
| 4 <sup>th</sup>  | Greg Poyser         | 107  |
| 5 <sup>th</sup>  | King Lam Kwan       | 31   |
| 6 <sup>th</sup>  | Sunny Amrat         | 30   |
| 7 <sup>th</sup>  | Jan Xu              | 17   |
| 8 <sup>th</sup>  | David Fengchu Zhang | 14   |
| 9 <sup>th</sup>  | Grace Chin          | 13.5 |
| 10 <sup>th</sup> | Sach Patel          | 13   |
| 11 <sup>th</sup> | Harry Secrett       | 10   |
| 12 <sup>th</sup> | Willie Rush         | 8    |
| 12 <sup>th</sup> | Joshua Wan          | 8    |
| 14 <sup>th</sup> | Qiaoqiao Fu         | 6    |
| 15 <sup>th</sup> | Jeremy Ong          | 3    |
| 16 <sup>th</sup> | Megha Agrawal       | 2    |

### Groups

|                 |               |      |
|-----------------|---------------|------|
| 1 <sup>st</sup> | CP Fanclub    | 145  |
| 2 <sup>nd</sup> | Pufuletz      | 118  |
| 3 <sup>rd</sup> | Gap Yahhhh    | 58.5 |
| 4 <sup>th</sup> | The Gravitons | 15   |
| 5 <sup>th</sup> | Parmesan      | 9.5  |

### Points Available

|             |   |
|-------------|---|
| Nonogram    | 4 |
| Crossword   | 4 |
| Rectangles  | 2 |
| Slitherlink | 2 |
| Sudoku      | 4 |
| Chess       | 4 |



For both puzzles, white to move. Forced checkmate in two.

# HOW THE FUTURE



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# FELIX HANGMAN



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## NEWS WITHOUT THE NEWS



JOHNSON: I CAN'T BE RACIST BECAUSE...



FUCKIN BORIN

## HOROSCOPES



ARIES

This week you shave your head just to shake it up a bit; however, during a revision session in the library your stretching gets interpreted as a Nazi salute and you are kicked out of Imperial. At least you're a decent temperature in the library.



TAURUS

This week Imperial focusses on the fact that we are number three in the UK for innovation and research bollocks but once again in the polls about the actual student experience we are lacking severely – it's fucking horrible here, am I right?



GEMINI

This week you find out that your roommate is actually a communist sleeper spy and that the mention of Ukraine causes him to tense up. Still doesn't explain why he masturbates without locking the door though.



CANCER

This week you wonder if that guy ever leaves the library – you know the one with the dragon ball z hair who always wears a vest. I've legit seen him with a towel so he could just wash in Ethos. Gross.



LEO

This week you remember how fucking ridiculous it is to find a house in London. Fuck my life, fuck estate agents, landlords, EDF energy, Zoopla, and Boris Johnson. I hate this city.



VIRGO

This week to procrastinate you decide to go on a YouTube binge but you end up going down a hole where you find yourself in 5am looking at tutorials for peeling watermelons. Probably time to do some revision.



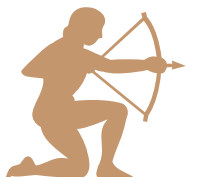
LIBRA

This week eduroam shuts down just as you are preparing for that revision-break wank, leaving you stuck with just the tabs you had open. All that is left is your 60-year-old process dynamics lecturer. Well sometimes you've got to work with what you have.



SCORPIO

This week you start a petition to get the central library air conditioning and Imperial actually listen to the students and then do something they want! You then wake up from that dream and realise Imperial doesn't care about its students.



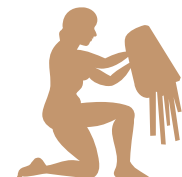
SAGITTARIUS

This week you realise how far behind you are on Game of Thrones but you don't even care anymore. The thing happens to that guy but then FUCK that other guy comes to the place with the other woman and then they have sex. Btw, spoilers.



CAPRICORN

This week you're Samantha Cameron and your husband's decided to buy you a second hand Nissan Micra for £1500, presumably in a bid to look more like the "common man". Like a 17-year-old lad you use it to cruise round the estate, your own country estate that is.



AQUARIUS

This week you're Dale Winton and you come out as pro Donald Trump. You got chatting at a tanning salon and found you have a lot in common, chiefly your joint catchphrase of "Bring on the wall!"



PISCES

This week, you dress up as an air conditioning unit and round up everyone in the library, getting them to bring hot water bottles, gas heaters and small camping stoves to the blue cube, so they know how it feels. Your sweaty army finds out there's free coffee there and so permanently relocates.



# Minute trip to Taiwan

Felix visits BAO, the hip Taiwanese restaurant in SoHo



Above: BAO. Top to bottom; Classic Bao, with braised pork and peanut; Fried Chicken Bao; Pigs blood cake with soy cured egg yolk; Horlicks ice cream on sweet Bao. Photo Credit: Christy Lam

Christy Lam  
Writer

Last Wednesday was another one of those typical rainy, gloomy days with me sitting, staring into space in the back of the Chem Eng library. I must have appeared to be either half asleep, or deep in thought pondering upon the underlying philosophy of a radiative heat transfer problem. Hangry, more like. I was craving something naughty, something unique, something that tasted like home. After five minutes of desperate scrolling up and down my Instagram feed, I got an answer.

BAO, created by Erchen Chang and brother and sister Shing Tat and Wai Ting Chung, started off as a minuscule travelling street stall with Street Feast and Kerb. Many loyal customers, awards and baos later, they secured a regular Saturday trading spot at Netil Market, then finally in 2015, transitioned into a permanent site in Soho.

Despite being surrounded by the fast changing food trend, they stuck to their two signature dishes: Gua Bao and their Taiwanese fried chicken, called Xian Su Ji. If you've never heard of a Gua Bao before, it's a popular Taiwanese snack consisting of a thick slice of braised pork belly sandwiched between a folded, steamed bun.

Back to the story. After a high speed powerwalk session from college straight to South Kensington Underground, an impatient four stop journey on the Piccadilly line

followed by a confident march up north from Piccadilly Circus, I arrived at the simplistic exterior painted a calming light grey, expecting to see a queue so long that it would question my reasoning behind coming here in the first place. Normally, especially during weekends, the queue would start on the street opposite and stretch far around the corner. Wait. No queue? I must have been dreaming.

Accepting my luck with gratitude and joy, I walked in and was shown to a seat by the clean, wooden bar table. A one-page, A5 size menu followed, highlighting all their signature dishes with beautiful artwork and also an old-school tick-sheet for you to input the quantity of each dish you desire.

The menu at their Soho site has developed much more since their street stall days. Nevertheless, it is short and sweet, easy to read, no frills, no fancy language and no hidden costs. They still have a good range of seven snacks, six types of Bao and four sides. Everything dazzles and is extremely tempting, despite some items being more exotic than what the normal Londoner is used to: pig blood cake, trotter nuggets, kale salad with salted egg. Don't expect one Bao to fill you up – it's only the size of a palm. And given the many tempting choices here you wouldn't want to leave with just one in your belly anyway. Think of their dishes as tapas.

Drinks-wise, as their small, flavourful dishes team up so beautifully with a beer, especially after a long day at work (in Chinese we call them Xia Jiu Cai), a variety

of beers, ciders and sake are available. If you are looking for an authentic Taiwanese experience for your tastebuds, go for a can of Taiwan beer! Or go for a pot of their Oolong tea.

All that research on Instagram reduced my menu ticking activity to less than ten seconds. I quickly shoved the sheet to the waitress and sat waiting with high hopes.

First off, the Classic Bao (£4). The heavenly combination of the pillowy soft, melt-in-the-mouth steamed bun and the tender, flavourful braised pork was finished

## BAO is everything I ever needed in life

off with lashings of fragrant peanut powder and coriander. Wipes are available so feel free to dig in with your hands.

Next up, the Fried Chicken Bao (£5). A compromise for anyone wanting to try the fried chicken without having just plain fried chicken. BAO's fried chicken is truly one-of-a-kind. A light, crumbly, crunchy soy milk batter encasing tender, juicy bitesize pieces of chicken, seasoned with mouthwatering spices. The addition

of the Sichuan mayonnaise and the kimchi all sandwiched between a black sesame bao is everything I ever needed in life.

Out of curiosity, I went for a portion of Pig Blood Cake (£3.50) – a rectangular cousin of the British black pudding and a common street food not only in Taiwan, but also in China and Korea. BAO's version, based on the Asian style blood cake, comes mixed with glutinous rice and fried until it's crispy on the outside, yet wonderfully moist and chewy inside. As horrifying as this may sound to some, it's delicious and you definitely can't taste any blood. Rich, savoury, and rounded off by that gorgeous runny soy-cured egg yolk.

A meal is never a meal without dessert. The only dessert item available is their fried Horlicks ice cream Bao (£4). The fried bao is slightly sweetened with a texture like a brioche or a doughnut. A generous scoop of their light, malty Horlicks ice cream melts slowly between the bao, forming a magical harmony between contrasting temperatures and textures.

Aside from my choices, other popular items include the aged beef rump cap, which is basically thin slices of tender beef marinated in soy sauce. For vegetarians, the spicy fried daikon (radish) bao, sweet potato chips and kale salad are available.

I arrived hungry and left fully satisfied, my taste buds swimming in umami, without having broken the bank. What's led to BAO's success is simple, sincere, down-to-earth, good food.

